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THE STRUCTURE OF CORPORATE BOARDS AND PRIVATE BENEFITS OF CONTROL: EVIDENCE FROM THE RUSSIAN STOCK EXCHANGE

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Abstract: This paper revisits the role of board size and composition in corporate governance using a measure of private benefits of control (PBC) as indicator of governance problems in firms. We calculate PBC using the voting premium approach for a sample of dual class stock companies traded on the Russian stock exchange between 1998 and 2009. Using fixed-effects regressions, we find a quadratic relationship between PBC and board size, implying the optimality of medium-sized (about 11 directors) supervisory boards. This result is substantially stronger for PBC than for traditional measures of corporate performance. There is also some evidence that director ownership helps mitigate governance problems. Most remarkably, we find that non-executive/independent directors are associated with larger PBC and thus do not seem to help improve corporate governance. In contrast, regressions with accounting performance measures as dependent variables tend to suggest a positive role of these directors in corporate governance.

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1. Introduction

Agency theory views the conflict of interest between managers on the one hand, and providers of finance, most notably shareholders, on the other, as a key feature of the public corporation (Shleifer and Vishny 1997). Among various corporate governance mechanisms, which aim to realign these interests, a crucial role is assigned to the board of directors (Tricker 2012). The issues of board structure and processes, defined in terms of board size, presence of non-executive independent directors, separation of the posts of the chairman and the CEO, and establishment of various committees have been central to recent corporate governance debates and reforms (Nordberg 2011). In particular, reforms aimed at increasing the number of non-executive and independent directors in corporate boards have widely been adopted.[1]

The empirical evidence concerning the effect of different board structures on corporate performance remains inconclusive regardless of whether it comes from the US, other developed economies or emerging markets. With respect to board size, a number of influential papers suggest that large boards are bad for company performance (e.g., Lipton and Lorsch 1992, Yermack 1996, Conyon and Peck 1998). However, some recent studies find no robust relationship (e.g., Lehn, Patro, and Zhao 2009, Wintoki, Linck, and Netter 2012), report a non-linear relationship (Andres and Vallelado 2008), or suggest a more nuanced picture (e.g., Coles, Daniel, and Naveen 2008 according to which Tobin's Q increases in board size for complex firms, but decreases for simple ones).

Similarly, there is a lack of agreement regarding the role of independent and non-executive directors. Most studies based on US data find no statistically significant effect of board independence on corporate performance (Hermalin and Weisbach 1991, Bhagat and Black 2002, and Wintoki et al. 2012). Agrawal and Knoeber (1996) is among a few papers reporting a negative effect. Some studies suggest a positive role of independent directors (e.g. Rosenstein and Wyatt 1990, Core, Holthausen, and Larcker 1999, Gupta and Fields 2009). The main cross-country study to date, Dahya, Dimitrov and McConnell (2008) reports a positive effect of board independence on corporate value. However, Black, de Carvalho, and Gorga (2012, p. 937) casts some doubts on the robustness of this result across countries by noting that "board independence predict higher market value in Korea, lower market value in Brazil and is insignificant in India".

[1] For example, the OECD principles of corporate governance (2004) maintain that the board should have a sufficient number of non-executive directors to ensure its independency from the executives; the UK corporate governance code (2010) requires that at least half of board should comprise non-executive directors, the Sarbanes-Oxley Act requires the audit committees to consist solely of independent directors and both NYSE and NASDAQ oblige listed companies to have a majority of independent directors.

On the background of such mixed and inconclusive results based, for the most part, on market and accounting performance measures, Bebchuck and Weisbach (2010, p.944) note that "there is a growing body of empirical research indicating that director independence is associated with improved decisions with respect to some specific types of decisions". In particular, the effect is more pronounced in studies that focus on CEO turnover, CEO compensation, as well as the incidence of fraud and opportunism. Several studies suggest a more nuanced link between board independence and corporate governance and performance. For example, Duchin, Matsusaka and Ozbas (2010) establish that outsider effectiveness varies with information costs and Masulis et al. (2012) find a positive effect of independent directors when they have relevant industry experience.

The available evidence shows that it may be particularly difficult to establish a relationship between board structure and corporate performance measured by traditional performance measures such as Tobin's Q and financial ratios based on accounting data. One possible reason is that these traditional performance measures may be subject to various external influences such as exogenous firm-specific and industry-specific shocks, may respond to governance problem with considerable lags, and may suffer from measurement problems (stemming, for example, from variations in accounting rules and practices) that are hard to control for in empirical analysis. The gradual shift of attention from traditional measures of corporate performance to "specific types of decisions" (in the words of Bebchuck and Weisbach) is, therefore, not an accident. A further step forward in this direction has recently been taken by Schwartz-Ziv and Weisbach (2013) who look inside the black box of corporate boards. Using the minutes of board meetings in Israeli firms, they evaluate board effectiveness based on the information about what actually happens in the boardroom.

This paper revisits the old question of how board structure, in particular, the size and composition, affects corporate governance and performance, but from a rather unusual angle. We link key characteristics of corporate boards to a measure of private benefits of control (PBC), in addition to and above traditional measures of company performance. Theoretically, PBC capture pecuniary and non-pecuniary benefits that a party in control over the firm can extract without sharing them with other shareholders and can, therefore, be regarded as a direct indicator of governance problems in firms (see Dyck and Zingales 2004; Baulkaran, Amoako-Adu, and Smith 2012). We estimate PBC using the voting premium approach, which relates prices of voting and non-voting stocks in dual class stock companies. This is the key innovation and contribution of our paper to the corporate finance

and governance literature. To our best knowledge, no other studies have thus far examined the link between corporate board structure and private benefits of control.

Our empirical analysis focuses on Russia, which is not an accident. Firstly, Russia has long been regarded as country with extreme corporate governance problems. As noted by Shleifer and Vishny (1997), managers and/or controlling shareholders of Russian companies had immense opportunities for diverting both profits and assets to themselves. Goetzmann, Spiegel, and Ukhov (2003) even labeled Russia "a Wild West of corporate control". At the same time, the country has also been known for considerable variation in corporate governance practices across firms and dynamic changes in firms' governance structure (e.g., Black 2001). The scope and variation, both across companies and over time, of governance problems makes Russia a useful laboratory of corporate governance (Dyck et al. 2008, Black, Love, and Rachinsky 2006). Secondly, our paper takes advantage of the considerable number of dual-class stock firms (those issuing voting and non-voting shares) traded on the Russian stock market. This gives us a large sample of firms for which a measure of private benefits of control can easily be computed. Thirdly, we exploit the fact that most Russian dual class stock companies were created not because of the desire of their founders to retain control over productive assets while obtaining external financing, but because of the specific design of the Russian privatization, which is a truly exogenous factor. Thus, the sample selection issue does not apply or at least is of much smaller concern in our study as compared with studies of mature stock markets. These three prominent features of the country's corporate sector strengthen the internal validity of our study. A further strength of our analysis is that we compare and discuss the results for PBC, our key dependent variable, with those for traditional measures of corporate performance, such as Tobin's Q and ROE. Finally, we contribute to the still limited evidence on the role of board of directors in one of the largest emerging economies.[2]

Our analysis is based on a novel hand-collected dataset of Russian dual stock companies that combines the 1998-2009 share trade data from the Russian Trading System (RTS) stock exchange with additional information from companies' charters and quarterly reports to the Federal Financial Market Service (FFMS). Overall, we have at our disposal an unbalanced panel of more than 100 firms observed over 12 years, with about 1000 observations in total. Based on fixed-effects regressions, our econometric

[2] Previous studies on Russia include Blasi and Shleifer (1996), Muravyev (2003), Iwasaki (2008), and Frye and Iwasaki (2011). See also a recent report by the PwC prepared for the OECD roundtable on corporate governance in Russia (PwC 2012).

analysis suggests a quadratic relationship between PBC and board size, implying the optimality of medium-sized (about 11 directors) boards. This result appears to be substantially stronger for PBC than for traditional measures of corporate performance, in particular ROE. There is some evidence that director ownership (at low levels at least) helps mitigate governance problems. Most remarkably, our study contributes to the ongoing debate on the role of independent and/or non-executive directors in corporate governance. According to our results, non-executive/independent directors in Russia are associated with larger PBC, and thus do not help improve corporate governance. In contrast, regressions with traditional performance measures tend to suggest a positive role of these directors in addressing governance problems. We attempt to explain and reconcile these non-trivial findings at the end of our analysis.

The rest of the paper is organized as follows. Section 2 provides necessary institutional background regarding the organization of corporate boards and specifics of dual class stock companies in Russia. Section 3 describes the methodological approach. Section 4 describes the data and sample used in the paper. The estimation results are presented and discussed in Section 5. Section 6 concludes.

2. Institutional background

2.1. Corporate boards in the governance structure of Russian companies

Key features of the governance structure of Russian companies are set in the Civil Code adopted in 1994 and in the Federal Law "On joint-stock companies" N 208 FZ passed in 1995, with numerous changes and amendments in both since then. There are additional regulations adopted by government and its agencies, as well as by stock exchanges, some of which are optional. The most prominent example of the latter is the Corporate Governance Code recommended by Russia's Federal Commission on Securities Markets (see FCSM 2002). Introduced in 2002, the Code provides a set of voluntary commitments by corporate stakeholders, including shareholders and managers of companies.

As in most countries of the world, the highest governing body of firms incorporated in Russia is a general shareholder meeting. A company should hold at least one such meeting per year (called annual shareholder meeting), no earlier than 2 months and no later than 6 months after the end of a fiscal year (which corresponds to the calendar year). All other meetings are considered extraordinary. The power of shareholder meetings is, however, severely restricted to passing changes in and amendments to the corporate charter, approval of reorganization and liquidation of the company, approval of dividends and of annual financial reports, appointment of

auditors, and election of other governance bodies, in particular, the board of directors (supervisory council).[3]

The board of directors is responsible for the overall governance of the company and acts under the authority granted to it by law and the corporate charter. In particular, the board of directors is responsible for setting priorities for company operations, convening general shareholder meetings and setting their agenda, deciding on bond issues, putting forward recommendations on the amount of dividends, and other matters. Importantly, the board of directors has no executive functions. According to Russian corporate law, companies are managed by a unitary executive body (CEO, or "general director" in Russian) or by CEO and a collective executive body (management board). In the latter case, law explicitly requires companies to define, in their corporate charters, the authority of the collective executive body. Depending on the corporate charter, the appointment and dismissal of the executive body may be the responsibility of either the board of directors or the shareholder meeting.

Russian corporate law contains provisions regulating the size and composition of corporate supervisory boards as well as the procedure of their election (article 66 of the Federal Law "On joint-stock companies"). The key regulations are summarized below:

- The minimum number of directors is set at the level of five (the norm applies since 2004). In addition, companies with more than 10,000 voting shareholders must have no fewer than 9 directors, and companies with 1,000 to 10,000 shareholders must have at least 7 directors.[4]
- Only natural persons can be elected to the board of directors (in contrast to the CEO which may be a legal person, so-called "managing organization").
- Members of the board of directors are elected at a shareholder meeting for the period until the next annual shareholder meeting. Board members may be reelected unlimited number of times. These norms imply that staggered boards are not allowed in Russia.
- The board is elected by cumulative voting, which ensures representation of small blockholders. Under cumulative voting, the number of votes of each shareholder is multiplied by the number of

[3] In companies with fewer than 50 shareholders the functions of the supervisory board can be performed by the shareholder meeting.

[4] In the analysis that follows we do not explore this potential source of variation in board size because the overwhelming majority companies in our sample are former state owned enterprises, which usually have thousands of atomistic shareholders due to the design of the Russian mass privatization. The legal restriction largely affects new private firms that recently entered the Russian stock market.

directors on the board; all these votes can be cast for one or several candidates running for the election.

- Russian corporate law explicitly bans CEO duality. However, although the CEO cannot chair the board of directors, she may be (and in the overwhelming majority of cases is) among its members.
- If a company has a collective executive body (management board), its members cannot occupy more than 25% of seats on the board of directors.

Among optional norms, the most important is the Corporate Governance Code recommendation for companies to have at least three independent directors so that they account for no less than one-fourth of the board membership (Section 2.2.3). The Code also provides the definition of independent directors. See FCSM (2002) for further details.

2.2. Dual class stock companies in Russia

Dual class shares were authorized in Russia in 1992, when a major presidential decree on privatization was enacted.[5] This document established three basic options for privatizing large and medium-sized state-owned enterprises, which were to be transformed into joint-stock companies. It also provided a *standard corporate charter*, which all privatized companies had to adopt. According to the decree, enterprises that followed the so-called "option 1" of privatization were re-established as companies with up to 25% of their charter capital represented by non-voting (preferred) shares and the rest represented by voting (common) shares.[6] The other two options ("option 2" and "option 3") did not envisage the issue of non-voting stocks. The equity of companies that followed these options was formed by common shares only.

Various sources suggest that that "insiders" (managers and workers, the key players at the first stage of the privatization process) preferred privatizing their firms in 1992-1994 using "option 2" and "option 3", which would give them full control (the majority of common stock). These insiders resorted to "option 1", which would split the firms' equity between voting and non-voting stock and would give them non-voting shares for free, only when they did not have enough funds to purchase the firms' assets, evaluated at their book value as of 1992. This was typical of large and capital intensive firms (see Boycko et al. 1995, Hare and Muravyev 2003). A

[5] See Presidential Decree No. 721 dated 1 July 1992 "On organizational measures on transformation of state enterprises and voluntary associations of state enterprises into joint-stock companies".

[6] The term "preferred shares" is a direct translation from Russian (Federal Law "On joint-stock companies"). As explained below, these shares are rather different from what is usually meant by preferred stock in mature stock markets. In fact, Goetzmann et al. (2003) call Russian preferred shares "preferred common shares". Importantly, these "preferred common shares" are the only way for the departure from the one share – one vote principle in Russia. The country's corporate low forbids any differentiation in cash flow rights or voting rights among the usual common stock.

number of studies treat the method of privatization as an exogenous factor with regard to the performance of firms and even uses it as an instrument for the firms' post-privatization ownership structure (e.g., Earle and Estrin 1997). Overall, the existing literature does not suggest any mechanism by which the use of "option 1" (the issue of dual class stock) in the process of privatization is related to the magnitude of private benefits of control. We therefore build on this literature to claim that the selection issue (the choice of dual class stock structure by Russian companies) is of no or little importance in our analysis. This feature is rarely observed in mature stock markets where dual class stock structures are usually created for a reason, such as attracting external finance without jeopardizing control over the firms.

The legal status of the two classes of shares, common and preferred, was initially specified in the *standard corporate charter*. The rights attached to common (voting) stock were quite similar to those existing in most other jurisdictions (they are basically restricted to the right to vote at shareholder meetings and the right to receive dividends, which are indefinite). The status of preferred shares was, in contrast, rather peculiar. While sharing a number of essential features with common shares, they did not confer general voting rights but instead provided a few pecuniary privileges to their owners. These included superior dividend rights (in particular, the dividend on preferred shares was bounded below by the dividend on common stocks), superior rights in the event of company liquidation, as well as temporary enfranchisement of preferred shares in the case the dividend on them was not paid or was not paid in full. The standard charter also endowed preferred shareholders with the right to vote on all decisions that involved their "class rights". Effectively, preferred shareholders were granted veto power on decisions that concerned their class rights as such decisions required a supermajority (two-thirds) approval by these investors.

Since the start of Russia's privatization, there have been several changes in both the country's corporate law and individual corporate charters concerning the legal status of preferred shares (see Muravyev 2013 for details). However, the basic principle that preferred shares do not vote but are instead entitled to a superior dividend has largely remained intact. Thus, the differentiation of voting rights across classes – a deviation from the one share - one vote rule – has been retained. This is crucial for estimating private benefits of control based on the prices of common and preferred shares.[7] For Russia, this has been previously done by Goetzmann et al.

[7] Ideally, the two types of stock should be identical and differ only with respect to their voting rights. This is rarely observed in the real world, however. For example, Zingales (1995, p.1057) in his US study notes that "only 21 companies have nonvoting common stock. In all other cases both classes are voting, but their voting power differs. The majority of companies (57) attribute ten votes to the superior voting class and one to the inferior

(2003), Desai, Dyck, and Zingales (2007), and Muravyev (2013), among others. The approach is thus considered valid in the literature, despite some differences in the rights attached to common and preferred shares (apart from the voting right).

There have been more than 200 dual class stock companies traded on the Russian stock market, with the earliest trades of non-voting stock on the RTS[8] dating back to September 1996. The average voting premium has varied a great deal between 1998 and 2009, with the highest values achieved right after the 1998 financial crisis (Muravyev 2009). The high magnitudes of the voting premium, often above 100%, suggest large private benefits and significant risks of minority shareholder expropriation in Russian firms, which is consistent with casual evidence of poor investor protection in the country.

3. Methodology

In the empirical analysis that follows, we relate key variables characterizing supervisory boards to the voting premium, which is our measure of private benefits of control.[9] In the most general form, the corresponding econometric model can be written as follows:

$$VP_{it} = \alpha_i + \boldsymbol{X}_{it}\boldsymbol{\beta} + \boldsymbol{Z}_{it}\boldsymbol{\gamma} + \delta_t + \varepsilon_{it} \quad (1)$$

where subscripts i and t index firms and time, respectively, the dependent variable VP_{it} is the voting premium, α_i is a time-invariant firm-specific effect (which captures unobserved time-invariant characteristics of firm i), vector $\boldsymbol{X}_{it}$ includes essential characteristics of the firm's supervisory board, including size, director ownership, and the presence of independent and/or non-executive directors, vector $\boldsymbol{Z}_{it}$ includes conventional control variables, such as firm size, as well as characteristics of the managing body (for example, whether there is a management board in the company or the company is run by the CEO), δ_t denote time effects common to all firms, and ε_{it} stands for random disturbance. As the previous literature contains some evidence of non-linear relationships between board characteristics and corporate performance (e.g., Mura 2007, Coles et al. 2008), we consider quadratic specifications in these variables alongside linear ones. In specification (1), vector of coefficients $\boldsymbol{\beta}$ is of our primary interest.

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voting class." Also, in many companies "…inferior voting shares have the right to elect a minority of directors." In other jurisdictions, non-voting stocks may be truly non-voting, but superior in terms of cash flow rights. What really matters, however, is the deviation from the one-share-one-vote rule, regardless of how it is introduced. Israeli companies, for example, used to introduce such deviation by issuing shares which were entitled to one vote each but had different par values and hence, provided different dividends (Levy 1983).

[8] The RTS was the first electronic trading system in Russia established in September 1995. It was transformed into the RTS Stock Exchange in 1997 and finally merged with the MICEX at the end of 2011.

[9] The alternative approach for measuring private benefits of control (the control premium approach), which is based on comparing prices of shares in transactions involving control block change and prices of shares in the stock market after the announcement of such control block sales (e.g., Barclay and Holderness 1989), is not used in the paper due to data constraints.

Following the international literature, we define the voting premium as the difference between the price of common shares and the price of preferred shares divided by the price of preferred shares (e.g., Zingales 1995, Benos and Weisbach 2004).[10] Theoretical models suggest, however, that the voting premium, if taken at face value, provides only an imperfect measure of the private benefits. Indeed, the model by Zingales (1995) shows that the voting premium is affected, in addition to private benefits of control, by the likelihood of a control fight over the firm as well as by the proportion of voting shares in the company's equity.[11] In fact, Doidge (2004) mentions such confoundedness as a key shortcoming of the voting premium as a measure of private benefits.

While some authors have considered, based on various assumptions, several adjustments to the usual formula of the voting premium in order to make it closer to the true value of private benefits (see, e.g., Nenova 2003 and Doidge 2004), our approach is different. We include key variables identified in previous studies on determinants of the voting premium as additional controls in the regressions. The idea here is to eliminate any potential spurious correlation between the voting premium on the one hand, and board characteristics on the other hand if these latter factors are correlated, for whatever reason, with other determinants of the voting premium, such as the likelihood of a control fight over the firm. This is also a more traditional approach in the literature. Indeed, according to Albuquerque and Schrot (2010, p.33) "[c]urrent approaches to estimating private benefits of control rely on empirical proxies, such as the block premium or the voting premium, and on the use of control variables to remove from these proxies aspects unrelated to private benefits of control".

We therefore add to vector $\boldsymbol{Z}$ a set of additional control variables that include a proxy for the probability of a control fight, the proportion of vot-

[10] An important advantage of the dependent variable chosen is that it helps eliminate from the analysis the effect of many firm-specific and industry-specific shocks, which impact on traditional measures of corporate performance, such as Tobin's Q. To give an example, a substantial increase in oil prices is likely to positively affect the values of both common and preferred shares of the oil sector companies. As the computation of the voting premium uses the difference between the prices of the two classes of stock, much of the effect of increased oil prices is differenced away. This is not the case with Tobin's Q. An oil price rally would raise Tobin's Q of companies belonging to the oil extraction industry relative to firms from other sectors. Obviously, such an increase has nothing to do with better corporate governance in the oil sector companies.

[11] In particular, $VP = \Phi(B/y)(1/\pi)$, where B/y is the size of the private benefits of control relative to the value of investors' cash flow rights, Φ is the probability of a control contest over the firm, and π is the fraction of the voting stock in its equity. The probability Φ of a contested tender offer directly depends on the ownership structure of companies: it is essentially zero if a company has a majority shareholder, positive but small if there is one large owner and all other shareholders are small, and large when there are multiple large shareholders with similar stakes while the remaining shares are distributed among small owners. In empirical studies, Φ is usually proxied by the Shapley value.

ing shares in the company's equity, and a measure of liquidity.[12] Finally, given some variation in the characteristics of Russian preferred shares across companies, we consider several control variables specific to the Russian case. These include dummies for the temporary enfranchisement of preferred shares and compulsory allocation of 10% of net profit to dividends on preferred shares, among other variables (see Muravyev 2009 for details).

We also estimate a set of regressions with traditional measures of corporate performance on the left-hand-side in lieu of the voting premium. In the general form, the corresponding econometric model can be written as follows:

$$PERF_{it} = \alpha_i + \boldsymbol{X}_{it}\boldsymbol{\beta} + \boldsymbol{W}_{it}\boldsymbol{\gamma} + \delta_t + \varepsilon_{it} \quad (2)$$

where $PERF_{it}$ stands for either the Market-to-Book ratio, Tobin's Q, ROE, ROA or SGA and vector $\boldsymbol{W}_{it}$ denotes a set of control variables used in similar specifications (e.g., firm size, leverage, ownership of the first and second largest owners). The Market-to-Book ratio is conventionally defined as the market value of a firm's equity divided by the book value of equity. Due to data constraints, we approximate Tobin's Q, which usually relates the market value of a firm to the replacement value of its assets, by the ratio of the market value of equity and book value of long-term debt to the book value of equity and long-term debt. We calculate ROE as the ratio of net profit to equity, and ROA as the ratio of taxable profit to assets. SGA is defined as sales, general, and administrative expenses divided by sales revenues. As proposed in the literature, this variable reflects managerial discretionary expenses and may serve as proxy for agency costs (Singh and Davidson 2003).

It is well known that accounting-based performance measures may react to changes in the governance structure with substantial delays as compared with market-based performance indicators (e.g., Carton and Hofer 2006). Therefore, in addition to contemporaneous effects of governance variables we consider their effects on accounting-based performance measures one year ahead. In other words, the governance variables are lagged by one year with respect to the performance measures.

The regression models (1) and (2) include time-invariant effects α_i, firm fixed effects, which capture unobserved time-invariant characteristics of firm *i*, such as industry affiliation and location.[13] The firm fixed effects

[12] Although stock liquidity is usually not a part of theoretical models of the voting premium, it is almost always included in empirical analyses (e.g., Nenova 2003 and Neumann 2003). Since liquidity affects stock prices, the voting premium may be influenced by the liquidity differential between the two classes of stock.

[13] The models are estimated using the fixed-effects estimator (FE), which relies on the within variation in data. The main alternative, random-effects estimator (RE), also uses the between variation, and is usually preferred for efficiency reasons. It requires, however, a rather restrictive assumption that firm effects are uncorrelated with the

mitigate endogeneity concerns, specifically those arising when some of the characteristics of corporate boards are correlated with omitted characteristics of firms (which, in turn, affect the dependent variable). However, we acknowledge that fixed-effects specifications do not necessarily eliminate all potential problems related to regressor endogeneity broadly understood as correlation of the error term with the regressors. In particular, this approach does not address the issues of potential measurement error and reversed causation. Therefore, we admit that the estimated coefficients $\boldsymbol{\beta}$ do not necessarily have a causal interpretation.[14]

As regards inference, we rely on the cluster robust estimator of variance with clustering by firms. This takes care of potential violations of the assumption that standard errors ε_{it} are independently and identically distributed. In particular, it ensures that the standard errors are correct when observations are independent across firms, but not necessarily within firms.

4. Data and sample

Our analysis is based on a novel hand-collected dataset of publicly traded Russian companies that have issued dual class stocks. Specifically, the sample embraces all companies whose common and preferred shares were listed/traded on the RTS Stock Exchange between 1998 and 2009. The choice of the RTS (and not MICEX or any other stock exchange) is motivated by the wider coverage of the RTS, with more than 100 dual class stock companies traded there as early as the late 1990s.[15] We exclude from the sample banks and other companies from the financial sector. We also drop a handful of companies with convertible preferred shares (which have voting premia close to zero) as well as a few companies whose preferred shares are entitled to a fixed dividend, not related to the dividend on common stock (these preferred shares are thus similar to corporate bonds). We also exclude observations with negative equity, which is standard in financial studies.

From the RTS web-site (http://www.rts.ru) we obtain daily data on share trade for all sampled companies. These data are supplemented with information on ownership and characteristics of shares from companies' quarterly reports to the Federal Financial Market Service (FFMS, previously the Federal Commission on Securities Market, FCSM). These data have

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other regressors, which is usually hard to justify. As will be shown later, the Hausman specification test rejects the RE estimator in most of the specifications used in our study.

[14] We cannot advance in addressing this problem because the data at hand contain no reliable instruments for key corporate governance variables. Still, our analysis is an improvement over many studies of emerging markets based on cross-sectional data (e.g., Iwasaki 2008 and Black et al. 2012).

[15] The choice of a particular exchange has major implications for the measurement of liquidity, an important control variable in our analysis, especially when the latter is based on trade volumes data. The implications for the measurement of stock prices are less important as cross-market differences in prices are being consistently eliminated by arbitrageurs.

been assembled from the SKRIN and SPARK databases (www.skrin.ru, http://spark.interfax.ru) which collect and process original reports submitted by Russian joint-stock companies to the FFMS and statistical agencies. We use second quarter reports (usually prepared by companies in early July), which ensures that the data reflect the results of general shareholder meetings held at the beginning of each year (e.g., the appointment of new CEOs, boards of directors, etc.).

The SKRIN and SPARK databases provide a large array of variables characterizing various aspects of firms' operations. In particular, we have access to information on the distribution of ownership among large shareholders (the reporting threshold in Russia is 5%)[16], ownership stakes of affiliated persons (including the CEO and other directors, regardless of the size of their stakes), and composition of corporate boards (including name, age, tenure, and positions held during the last five years). Using these sources, we have assembled a dataset that contains the most important variables describing corporate ownership patterns, size and composition of corporate supervisory boards, as well as characteristics of CEOs and, where relevant, management boards. In addition, we have information on industry affiliation, the number of employees, and key financial indicators of the firms. Overall, the dataset at our disposal is an unbalanced annual panel of 190 companies during 12 years (1998-2009) with 1021 observations in total. The definitions of the variables used in the empirical analysis are provided in Table 1 below. Table 2 shows their descriptive statistics.

Most of the sampled firms are large and extra-large companies (with 4700 employees on average) and belong to three industries: power utilities, oil & gas industry, and telecommunications (see Figure 1). This is hardly a surprise given the specifics of privatization of these sectors, in which "option 1" heavily prevailed (see Hare and Muravyev 2003). The number of companies observed in a given year is shown in Figure 2. Two particular episodes generate considerable variation in the composition of the sample, namely the reorganization of the telecommunications sector in 2002-3 and of the power utilities sector in the second half of the decade. In the former case, there was a wave of mergers of regional telecommunication companies, with the number of telecoms in the sample dropping from 64 in 2002 to a mere 12 in 2003. In the latter case, there was a series of splits of local monopolies into power generating and distribution companies, with a wave of horizontal mergers in the sector shortly thereafter. The latter are reflected in the hike in the number of observations in 2006 and drop in the number of observations in 2008. As both reforms were implemented by gov-

[16] The disclosure standards adopted in Russia do not generally reveal complex ownership structures, such as family ownership or pyramidal ownership. This is certainly a limitation of the data we use.

ernment decisions, the time variation in the number of companies has nothing do to with the dependent variables. Overall, there is little selectivity in the sample attrition pattern, and the unbalancedness of the panel is, therefore, of little importance in our analysis.

The data in Table 2 show that the average voting premium for the whole period of observation is equal to 1.13 or 113%.[17] This is large by international standards. Indeed, Becht, Bolton and Roell (2003) note that, in most stock markets, the premium tends to remain in single or low double digits. Figure 3 shows that the premium in Russia varied considerably over time, being higher in the post-crisis periods (1999 and 2009) as compared with other years. This is consistent with greater incentives to expropriate minority investors in bad states of nature, when investment opportunities are scarce (Lemmon and Lins 2003). Other dependent variables have plausible magnitudes.[18] The mean values of the Market-to-Book ratio and Tobin's Q are close to unity.[19] The mean ROE and ROA are around 9%, and SGA amounts to 6% of sales revenues, on average.

Table 2 also provides key characteristics of the supervisory boards and managing bodies. These data are gathered with particular care, especially as regards identification of non-executive and independent directors. To this end, we have studied quarterly reports of the sampled companies and also resorted to additional sources, such as business newspapers, in a number of uncertain cases. Although the quarterly reports do not directly classify directors as either executive, non-executive, or independent, they provide a wealth of information regarding directors' current and past positions within and outside the firm as well as regarding their ownership stakes in the firm. In identifying independent directors, we rely on the definition in the Russian Corporate Governance Code. A director is considered non-executive if she does not hold a managerial position in the firm and, at the same time, is not independent. According to our definitions, independent and non-executive directors are separate non-overlapping categories. The details of our approach are provided in Appendix 1.

[17] To compute the voting premium, we use imputed share prices (0.5 times the ask quotation plus 0.5 times the bid quotation) averaged over May-August of each year. This approach addresses the problem of infrequent trading of most stocks, well-known feature of the emerging market of Russia. Its feasibility in the Russian context is discussed in Muravyev (2013). In what follows, we also perform estimations using share prices observed in actual transactions. Despite the loss of more than half of the observations, the results are very similar.

[18] In order to mitigate the influence of outliers on the results, we drop 1% observations in each tail of the distribution of the dependent variables (thus, 2% in total for each variable). To avoid substantial loss of the degrees of freedom, this is done separately for each dependent variable – an outlier with respect to Tobin's Q is not automatically deleted in the regression with ROE. The main results reported below are, however, robust to using other data cleaning procedures, e.g. winsorizing the dependent variables using 1% or 2.5% thresholds.

[19] These are computed using the imputed stock prices as in the case of the voting premium. Using capitalization data provided by the RTS (from 2003 on only) does not change the results in any important way.

According to the data shown in Table 2, the boards have, on average, nine directors. The share of directors who are either independent or non-executive is above two-thirds. However, only 10% of directors can be classified as independent. Members of the board (excluding, where relevant, the CEO) have, cumulatively, 0.51% stake in the company. Only about 13% of them are women.

In one-third of the sampled companies, there is no management board. In these cases, key decisions are made by the CEO, unitary executive body. In 9% of the cases the CEO is a legal person.[20] CEO ownership stakes are fairly small, just 0.42%, on average. The average tenure of the CEOs is just below 4 years. While this is low by international standards, in interpreting these data one needs to take into account several reorganizations of companies and whole sectors during the period under study. Overall, the data contain considerable variation in the governance variables, which helps econometric identification.

The overwhelming majority of the sampled companies have controlling shareholders, which is consistent with prior evidence of highly concentrated ownership in Russia. Note that employee ownership, even if it was substantial in some firms at the end of the 1990s, is of little relevance in our analysis of corporate governance. This is because employees only held preferred (non-voting) shares due to the privatization under "option 1". The sampled firms' equity consists, on average, of 21% preferred shares and 79% common shares. Common shares appear to be somewhat more liquid than preferred ones as variables *Liquidity_comm* and *Liquidity_pref* suggest. Overall, these descriptive statistics are very much in line with those from other studies of corporate governance in Russia, e.g., Kuznetsov and Muravyev (2001), Iwasaki (2007), Lazareva, Rachinsky and Stepanov (2007), and Chernykh (2008).

Finally, Table 3 shows pairwise raw correlations between the dependent variables used in the regression analysis. As might be expected, the voting premium, measure of private benefits of control, is negatively correlated with the Market-to-Book ratio, Tobin's Q, and ROE. These correlations are significant at 1%, 1%, and 10% levels, respectively. The correlation coefficient of the voting premium with ROA is negative, but marginally statistically insignificant. In other words, larger private benefits are associated with poorer corporate performance. The Market-to-Book ratio, Tobin's Q, ROE and ROA are all closely related, with correlation coefficients being greater than 0.25 and significant at the 1% level. SGA is positively and statistically significantly correlated with all performance

[20] When the CEO is a legal person, i.e., the company is run by a managing organization, CEO ownership is proxied by the ownership stake in the company of the chief executive of the managing organization.

measures save the voting premium, where the correlation coefficient is insignificant. One-year-ahead accounting performance measures are uncorrelated with the voting premium (for ROE, the correlation is marginally insignificant), but are closely related to each other.

5. Empirical results

The empirical analysis proceeds as follows. For each dependent variable, we start with the most parsimonious baseline specification that contains only three key variables characterizing corporate boards, namely the number of directors, share of non-executive directors, and share of independent directors. This is the baseline, specification 1. Then we consider specification 2 which introduces a quadratic in board size. Next, we include two additional characteristics of corporate boards available in our data, the total ownership stake of directors (excluding the CEO) and share of male directors on the board. Specification 4 considers a quadratic in director ownership stake. Finally, specifications 5 and 6 add essential characteristics of CEOs. In particular, specification 5 introduces a dummy for a unitary executive body (no management board) in the company, a dummy for the CEO being a legal person, as well as two continuous variables for CEO tenure and ownership. In specification 6 we consider a quadratic in CEO ownership. The principal estimation method is the fixed-effects estimator. We start with the presentation of the key results for the voting premium and then turn to the analysis of traditional measures of corporate performance.

5.1. Results for the voting premium

Table 4 shows the first set of results in which the voting premium, our proxy for private benefits of control, is the dependent variable. We employ the log transformation of the voting premium variable because it is suggested by theoretical models (e.g., Zingales 1995; see also footnote 10 in this paper) and also makes its distribution, which is skewed to the right, considerably more symmetric. For space reasons, here and later we only report the coefficients on the corporate governance variables that are of primary interest in our study.[21]

Column 1 shows the estimation results for the baseline specification. We observe positive and statistically significant coefficients on the shares of both non-executive and independent directors (variables *Non_exec_share* and *Independ_share*) and an insignificant coefficient on board size (variable *Board_size*). The result is non-trivial. Non-executive and independent directors turn out to be associated with larger private benefits of control, not smaller ones. This is contrary to the whole purpose of appointing such directors to corporate boards. Indeed, they are supposed to

[21] Full estimation results can be found in Appendix 4.

play the role of monitors of the executives, restricting their opportunities to extract control benefits. It is also noteworthy that the coefficient on independent directors is almost twice as large as that on other non-executives. Thus, it is independent directors who are particularly strongly associated with private benefits of control in Russia.

Column 2 reports the results from the specification that includes a quadratic in board size. Interestingly, we observe a well-defined non-linear relationship: private benefits tend first to decline and then to grow with board size. The turning point is at about 11 directors, which is slightly above the sample mean for board size (9 directors). This is broadly in line with the idea of the optimality of medium-sized boards. It should be emphasized though, that this result pertains to the governance system dominated by two-tier boards (only 33% of the sampled companies do not have a management board). Therefore, one needs to be cautious in comparing this finding with and generalizing it to the context of unitary boards.

The regression in Column 3 indicates no significant effects of the share of males on the board as well as of director ownership. We further test for the latter effect by including a quadratic in director ownership in the specification shown in Column 4. The coefficient on the squared value turns out to be significant and the F-test shows that both coefficients on director ownership are jointly statistically significant at the 5% level (p-value 0.029). The U-shaped pattern implies that an increase in director ownership has a negative effect on private benefits when director ownership is relatively small, below 3.3%. Beyond this threshold, private benefits of control tend to rise with director ownership. Note though, that the turning point is quite far in the right tail of the distribution of director ownership (the 95% percentile is just 2.19). It is therefore more appropriate to speak about a negative, albeit diminishing effect of director ownership on private benefits of control. Importantly, the coefficients on the variables characterizing board size and composition are barely affected by the inclusion of additional variables in specifications 3 and 4 as compared with the results shown in Column 2.

The results reported in Columns 5 and 6 suggest that private benefits of control are smaller when the company is managed by a unitary executive body, CEO, as opposed to a management board.[22] We do not observe any effect of CEO ownership on the magnitude of private benefits. This holds in the linear and quadratic specifications. Once again, the coeffi-

[22] Due to the lack of data on size and composition of management boards we cannot advance further in linking private benefits of control to characteristics of management boards, which could help better understand the pros and cons of two-tier systems as compared with one-tier systems, an important governance issue (Goergen 2012).

cients on the board size and composition variables remain almost identical to those reported in Columns 2-4.

An important question is whether the results reported in Table 4 can reflect the specific definition of the dependent variable, namely the use of imputed share prices (from ask and bid quotations) instead of actual prices (footnote 16). Although Muravyev (2013) illustrates the feasibility of the former approach, at least, in the Russian context, an extra check may be warranted. This is done in the regressions shown in Table 5. Here, the voting premium is computed based on the average prices registered in actual transactions taking place on the RTS between May and August each year. The new variable is closely related to our main measure for the voting premium (the correlation coefficient is 0.94). As might be expected, more than half of the observations are lost because of the infrequent trading of Russian stocks. Despite the considerable loss of the degrees of freedom, the new set of results in Table 5 reinforces our previous findings. In particular, we still observe a U-shaped pattern for board size, with the dip in private benefits at about 11 directors. We also observe a positive association between the share of independent and other non-executive directors on the one hand and the voting premium on the other. The magnitudes of these effects even become larger as compared with those in Table 4. As before, the association of the voting premium with independent directors is stronger than with non-executives who are not independent.

Another issue is whether alternative estimation methods, such as pooled OLS and random-effects (RE) regressions, can be superior to the fixed-effects regressions reported in Tables 4 and 5. This is not a meaningless question. The fixed-effects estimator uses only the within variation in the data and ignores all the between variation. As a result, the coefficients on time-invariant regressors cannot be estimated. Worse, the estimator may provide very imprecise estimates when the within variation in the data exists, but is very tiny (driven by a few firms only) and possibly reflects noise in the data. We re-estimate the regressions in Table 4 using the RE estimator (see Appendix 2). In this set of regressions, we still observe a positive effect of independent directors (and, to a lesser extent, of other non-executives) on private benefits of control. But the coefficients on the other governance variables, including board size, lose significance. As is standard in panel data analysis we resort to the key specification test, Hausman test for the consistency of the RE estimator. The test strongly rejects the RE estimator in 5 out of 6 cases. Essentially, the test results mean that the key assumption underlying the RE estimator, namely that compa-

ny-specific effects are uncorrelated with the regressors does not hold. The fixed-effects estimator is therefore a natural choice in this study.[23]

Last but not least, given changes in Russian corporate governance over the period under study, we conduct separate analysis for two subsamples, 1998-2002 and 2003-2009. The borderline of 2002/2003 splits the sample into two almost equal parts; moreover, the Russian Corporate Governance Code was adopted in 2002. The estimation results for the two subsamples and the voting premium (computed using both imputed share prices and prices registered in actual transactions) are shown in Appendix 3. While there are some differences across the results in different columns (some coefficients are not statistically significant due to the paucity of degrees of freedom), our main conclusions stay intact. Independent and non-executive directors are associated with larger PBC, director ownership mitigates governance problems, and medium sized boards seem to be most effective.

5.2. Results for traditional measures of corporate performance

Table 6 shows the estimation results for the market-based corporate performance measures chosen, Market-to-Book ratio and Tobin's Q. As in the case of the voting premium, we use the log transformation of the dependent variables which makes their distribution more symmetric. For space reasons, we only report the results for specifications similar to those contained in Columns 2, 4, and 6 of Table 4. Columns 1-3 contain regressions for the Market-to-Book ratio and Columns 4-6 for Tobin's Q. The results indicate no statistically significant relationship between the market-based measures on the one hand, and board size and composition on the other. This is in sharp contrast to what we observe for the voting premium. The only statistically significant effect pertains to board ownership. It implies an inverted U-shaped pattern with the peak of company performance at 4-5% ownership stake by directors. This turning point is quite far in the right tail of the distribution of board ownership (as already noted, the 95% percentile is 2.19). It is therefore more appropriate to interpret this result as a positive effect of board ownership on market-based performance measures with some curvature. Overall, this particular finding is consistent with a similar result for the voting premium. Director ownership reduces private benefits of control and enhances firm value. Similarly to the results for the voting premium, these findings are not affected by the use of imputed stock prices in lieu of prices registered in actual transactions.

Regression results for contemporaneous accounting measures as the dependent variables are provided in Table 7. For space reasons, we only

[23] As already noted, we cannot use IV methods as the data have no reliable instruments for board size and composition.

show the estimation results for specifications similar to those reported in Columns 2 and 6 of Table 4 and only report the coefficients on the key variables of interest. [24] Few coefficients are statistically significant in these regressions. There is some evidence of a non-linear relationship between board size and ROE (Column 2) as well as of a positive relationship between the share of non-executives and SGA. The results are quite weak though. The quadratic function in board size implies the peak of performance (ROE) at about 13 directors, which is broadly in line with the results for private benefits of control.

Table 8 provides estimates for accounting-based performance measures one year ahead. The specifications are the same as in Table 7. But the results in Table 8 are considerably richer than those in Table 7. In particular, regressions with ROE and ROA imply positive effects of independent and other non-executive directors on corporate performance. Quantitatively, increasing the share of independent directors by 10 percentage points (e.g., adding an extra independent director to a board with 10 members) is associated with an increase in ROE by 0.01, or 1 percentage point. The effect on ROA is smaller in magnitude, about 0.8 percentage points. This result for independent directors is also confirmed in the regression with SGA. In particular, an extra independent director in a board with 10 members is associated with a decline of SGA by 0.4 percentage points. These findings, suggesting positive roles of independent and other non-executive directors in corporate governance, are in sharp contrast with the results for the voting premium. Those earlier results imply that the appointment of independent/non-executive directors is associated with larger private benefits of control, and hence greater expropriation of minority investors. Next, in Column 2 we observe statistically significant coefficients on the quadratic in board size. The estimates suggest the peak of performance at about 12 directors, but this result is fairly weak and is not supported in the other regressions in Table 8. Finally, there is some evidence of an inverted U-shaped pattern for director ownership. The regression in Column 2 (and, to a lesser extent the regression in Column 6) implies the peak of performance (measured by accounting ratios) at about 3% director ownership.

5.3. Results discussion

There are five principal findings in our analysis. First, board structure and composition is linked with the voting premium much stronger than with traditional measures of corporate performance, whether market-based or accounting-based. Second, board size exhibits a non-linear relationship with firm performance. Both small and very large boards turn out to be less

[24] Full estimation results can be found in Appendix 5.

effective than medium-sized ones. Third, increasing the share of non-executive and independent directors is associated with larger private benefits of control. Fourth, the results for non-executive and independent directors duffer across the performance measures chosen. The presence of these directors on corporate boards seems to be associated with higher profitability, but also with greater private benefits of control. No effect on the market-based indicators is found. Fifth, director ownership seems to play a positive role in corporate governance. Below we offer a tentative interpretation of these findings.

(i) Strong effect of board variables on the voting premium. In the voting premium regressions, many governance variables are statistically significant at the 1% and 5% levels. However, only few of these variables are significant in the regressions with the traditional performance indicators. We believe these results reflect the fact that our key dependent variable can be regarded as a direct measure of governance problems in firms while market-based or accounting-based performance indicators cannot. By construction, the key dependent variable eliminates, or differences away, many idiosyncratic factors that affect traditional indicators of corporate performance, an oil price shock being a good example (see footnote 9). Regarding traditional performance measures per se, our results are consistent with some previous research, for example, Conyon and Peck (1998) who found it easier to isolate the effects of board size and composition for ROE and more difficult for market based performance indicators.

(ii) Non-linear effect of board size on corporate performance. The inverted U-shaped pattern with the peak of corporate performance at about 11 board members is in line with the notion of the optimal board size, proposed in Jensen (1993) and Lipton and Lorsch (1992). The pattern found in our study is also similar to the recent empirical findings in Andres and Vallelado (2008) as well as in Coles et al. (2008). All in all, our result is in accord with the idea that large boards are ineffective in monitoring managers because of coordination problems and director free-riding (Yermack 1996, Eisenberg, Sundgren, and Wells 1998); it is also consistent with the literature suggesting potential flaws of small boards, such as greater involvement of CEOs in selecting directors (e.g., Shivdasani and Yermack 1999) or the lack of capacity (Jensen 1993). We believe these earlier findings are reinforced by our study in a non-trivial way because our key dependent variable captures the essence of governance problems in firms.

There is one caveat though. Our results refer to the predominantly two-tier boards in Russia. It is still to be seen whether there is a similar

non-linear relationship between board size and PBC in the context of one-tier boards.

(iii) Positive association of non-executive and independent directors with PBC. This is the central finding of our study. Appointing non-executive and independent directors does not seem to help protect minority investors from expropriation by managers and/or large shareholders in the emerging economy of Russia.[25] One possible interpretation, which is not unique to Russia though, is that formally independent directors may not be independent in reality. For example, Hoitash (2011) suggests that while board members can adhere to the formal independence rules and regulations, they can still be related to management at the social level. Black et al. (2012) even argues that independent and non-executive directors in emerging markets can be selected by managers and/or controlling shareholders to provide cover for self-dealing. Indeed, a recent survey of board practices in Russia conducted by PwC (2012) shows the lack of clear and transparent norms and procedures for the nomination and appointment of independent directors. There is also abundant casual evidence that most formally independent directors are nominated by and pursue the interests of large shareholders in Russia (e.g., Finans 2010). Alternatively, independent directors (when appointed, for example, by minority shareholders thanks to cumulative voting) may face severe constraints in accessing and processing detailed information about the firm's operations. Information constraints make them powerless vis-a-vis those in control over the company.

(iv) Difference in the results for PBC and traditional (accounting) performance measures. Our primary explanation draws essentially on the same arguments as in (iii). For example, managers and/or controlling shareholders who appoint formally independent directors with the purpose to please the stock market while extracting PBC may simultaneously engage in earnings management activities. Alternatively, truly independent directors appointed by minority shareholders may be powerless in controlling earnings management under concentrated ownership. Indeed, while many studies show that earnings management decreases with board independence (e.g., Peasnell, Pope and Young 2005), this is not necessarily so in the case of concentrated ownership (Park and Shin 2004). We believe that the association between earnings management and PBC is an issue deserving further research.

(v) Director ownership helps mitigate corporate governance problems. This result is in line with numerous studies suggesting incentive

[25] A recent paper by Iwasaki (2013) reports similar results for outside directors in Russian independent firms, as opposed to group companies. In particular, the presence of outside directors in independent firms is negatively related to their survival probability.

alignment effects of director ownership. Although much of the relevant literature deals with CEO ownership as well as ownership by other executives, there is also evidence regarding non-executive directors. Already Morck, Shleifer and Vishny (1988) noted that ownership-related incentives may work for non-executives as well as for executives. This was confirmed in Mura (2007) and Ozkan (2009), among others. The non-linearity in the relationship between director ownership and corporate performance, of which we find some evidence, is consistent with the entrenchment effect, also widely documented in the literature. Importantly, our finding provides some hope for non-executive directors, as their share ownership helps mitigate their otherwise negative effect on corporate performance measured by PBC.

6. Conclusion

After several decades of intensive research, the available evidence the role of board size and composition in corporate governance is far from conclusive. Contradictory findings are particularly common in studies that relate board characteristics to traditional measures of corporate performance, such as Tobin's Q and ROE. Recently, a growing body of research focuses on other indicators of board effectiveness, such as board processes and decisions (Bebchuck and Weisbach 2010, Schwartz-Ziv and Weisbach 2013).

In this paper we study how characteristics of corporate boards are related to private benefits of control (PBC), which can be regarded as a direct measure of governance problems in firms (Dyck and Zingales 2004). We take advantage of a unique institutional setting in Russia, where a reliable measure of PBC is available for a large and non-selected sample of dual class stock companies. The use of PBC is the key strength of our paper relative to the existing literature. Another strength of our analysis is that we compare the results for PBC with those for traditional indicators of corporate performance.

Based on new and hand-collected data on publicly traded companies with dual-class stock structure in Russia and employing fixed-effects regressions, we find a quadratic relationship between PBC and board size, implying the optimality of medium-sized (about 11 directors) boards. This result is substantially stronger for PBC than for traditional measures of corporate performance. There is also evidence that director ownership helps mitigate governance problems in firms. These results hold both for our key dependent variable measuring PBC and for traditional performance indicators. Most remarkably, we find that increasing the share of independent and non-executive directors on corporate boards of Russian companies is associated with larger PBC. It appears that most Russian firms appoint

non-executive and independent directors in order to provide cover for self-dealing.

Our paper is among the first to study the association between board size and composition on the one hand, and private benefits of control on the other hand, and is, therefore, of an exploratory nature. As such, it may have a number of limitations. One limitation is that our results do not necessarily imply causal relationships. In particular, they may be influenced by omitted variables and reversed causation. Indeed, endogeneity of board size has long been acknowledged as an important problem in empirical studies (Hermalin and Weisbach 2003; Beiner et al. 2004; Harris and Raviv 2008). Although fixed effects specifications, which our study is based upon, take care of some of these issues, they do not address the problem in its entirety. Identification of causal effects would require natural experiments and/or strong and valid instruments for a group of variables characterizing corporate boards, which are not available to us.

Another limitation is related to the external validity of our study, which focuses on a single country. Although Russia is an important emerging market and has recently been regarded as a promising testing ground for economic theories (Dyck et al. 2008), one cannot automatically generalize from its experiences to other economies. This is a general problem highlighted in Black et al. (2012) who note that optimal governance may differ not only between developed and emerging markets, but also between different emerging markets. We conclude by observing that further evidence from other stock markets on how board characteristics are related to private benefits of control is highly desirable.

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Figure 1. Distribution of Observations by Sector.

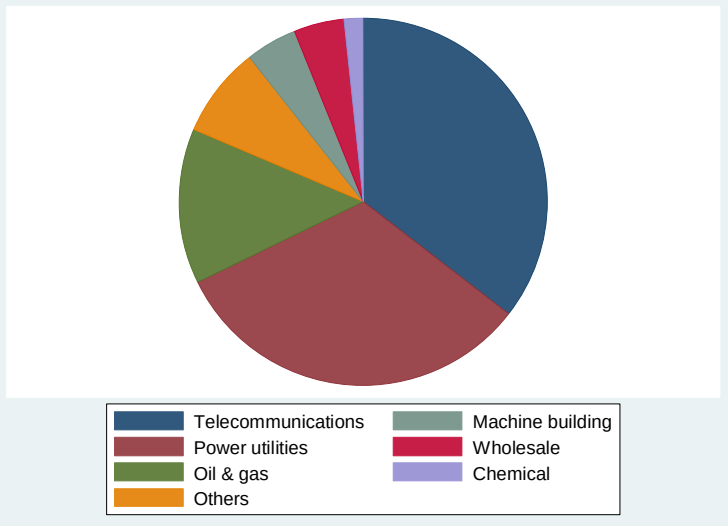

Figure 2. Distribution of Observations by Year.

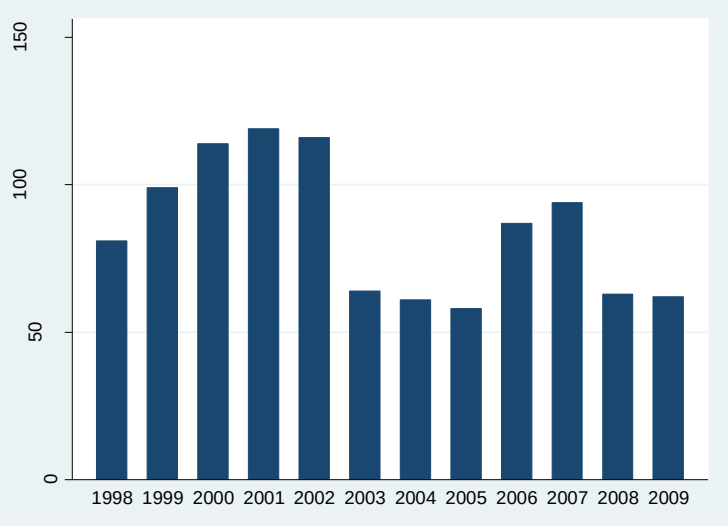

Figure 3. Dynamics of the Average Voting Premium.

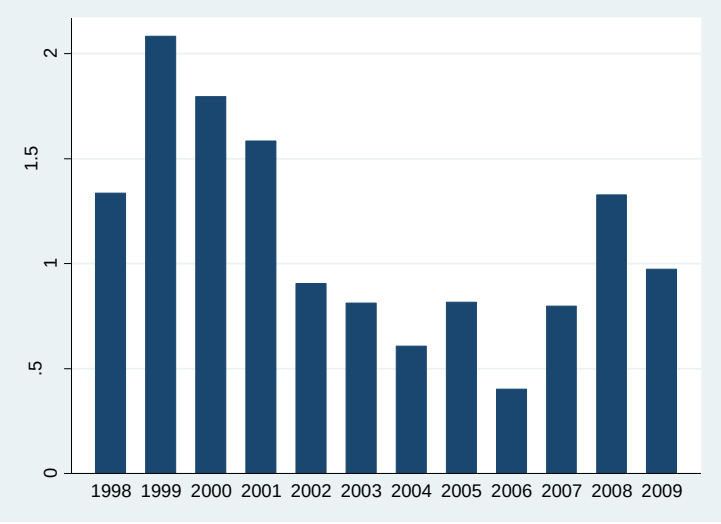

Table 1. Definitions of Variables Used in the Empirical Analysis.

Variable	Description
	Dependent variable
VP	Voting premium, calculated based on imputed share prices (0.5 times the ask price plus 0.5 times the bid price) averaged over May-August of each year.*
Market-to-Book ratio	The ratio of the market to book value of a firm's equity. The market value of equity is estimated using imputed prices, as in the case of the voting premium.
Tobin's Q	Tobin's Q, proxied by the ratio of the market value of equity plus book value of long-term debt and the book value of equity and long-term debt. The market value of equity is estimated using imputed prices, as in the case of the voting premium.
ROE	Return on equity, calculated as the ratio of net profit to book value of equity.
ROA	Return on assets, calculated as the ratio of taxable profit to book value of equity.
SGA	Sales, general, and administration expenses divided by sales revenues.
	Vector X variables
Board_size	Number of directors.
Non-exec_share	Percentage of non-executive directors on the board.
Independ_share	Percentage of independent directors on the board.
Dir_ownership	Ownership stake of the board members excluding the CEO, percent.
Board_sh_men	Percent of male directors on the board.
Manag_board	Dummy variable for the presence of management board as opposed to the CEO only.
CEO_legalp	Dummy variable for a legal person ("managing organization") performing the role of the CEO.
CEO_tenure	CEO tenure, full years.
CEO_ownership	Ownership stake of the CEO, percent.
	Vector Z/W variables
Size	Firm size, the natural logarithm of the number of workers.
Leverage	Firm leverage, the ratio of book values of debt and equity.
Owner1	Ownership stake of the largest shareholder.
Owner2	Ownership stake of the second largest shareholder.
State ownership	Ownership stake by the state.
Shapley	Shapley value; characterizes the extent to which a small atomistic shareholder can be pivotal in a control fight over the firm.**
Share_voting	Share of common (voting) stocks in equity.
Dividend10	Dummy for the presence of the 10% dividend rule on preferred shares (does the corporate charter requires the firm to pay 10% of net profit as dividend on pref. shares? 0=No, 1=Yes).
Delta_dividend	Extra dividend paid on preferred shares divided by their price.
ADR	Dummy for the issue of ADR (has the firm issued any ADR? 0=No, 1=Yes).
Vote	Dummy for enfranchisement of preferred shares in the current year, occurs when the company did not pay dividends on pref. shares in the previous year (are the preferred shares of the firm voting in the current year? 0=No, 1=Yes).
Veto	Dummy for the existence of the veto power for preferred shareholders.(equals 1, if the corporate charter includes the veto power, 0 – otherwise).
Liquidity_comm	The variable measures the liquidity of common stocks (calculated as average_bid/average_ask over May-August for each year. The closer this variable to 1, the more liquid the stock is. When it is close to 0, the stock is illiquid).
Liquidity_pref	The variable measures the liquidity of preferred stocks (calculated as average_bid/average_ask over May-August for each year. The closer this variable to 1, the more liquid the stock is. When it's close to 0, the stock is illiquid).

* This approach is chosen due to the infrequent trading of many Russian stocks. It is described and carefully analyzed in Muravyev (2013).

** The Shapley value is computed based on detailed ownership data for the sampled companies and using the online software for voting power analysis provided by Dennis Leech and Robert Leech, http://www.warwick.ac.uk/~ecaae, as available on January 28, 2013.

Table 2. Descriptive Statistics.

variable	mean	sd	min	p50	max
			Dependent variables		
VP	1.13	0.88	0.06	0.91	5.08
Market-to-Book	1.02	1.21	0.02	0.64	7.61
Tobin's Q	0.98	1.04	0.02	0.73	7.47
ROE	0.09	0.15	-0.46	0.05	1.06
ROA	0.09	0.11	-0.21	0.06	0.58
SGA	0.06	0.11	0.00	0.00	0.59
			Key corporate governance variables (vector X)		
Board_size	8.80	2.10	5.00	9.00	19.00
Non_exec_share	0.57	0.20	0.00	0.57	1.00
Independ_share	0.10	0.13	0.00	0.00	0.78
Dir_ownership	0.51	1.82	0.00	0.01	16.19
Board_sh_men	0.87	0.14	0.33	0.88	1.00
Manag_board	0.34	0.47	0.00	0.00	1.00
CEO_legalp	0.09	0.28	0.00	0.00	1.00
CEO_tenure	3.55	3.24	0.00	3.00	25.00
CEO_ownership	0.42	1.14	0.00	0.01	13.68
			Control variables (vectors Z/W)		
Size	8.45	1.35	4.06	8.48	11.71
Leverage	1.03	1.54	0.06	0.43	8.29
Owner1	54.70	14.17	7.17	52.05	99.49
Owner2	14.90	7.84	0.00	14.07	41.91
State ownership	3.32	10.93	0.00	0.00	99.59
Shapley	0.04	0.12	0.00	0.00	0.84
Share_voting	0.79	0.06	0.75	0.75	1.00
Dividend10	0.91	0.29	0.00	1.00	1.00
Delta_dividend	0.04	0.06	0.00	0.01	0.28
ADR	0.20	0.40	0.00	0.00	1.00
Vote	0.15	0.36	0.00	0.00	1.00
Veto	0.72	0.45	0.00	1.00	1.00
Liquidity_comm	0.64	0.27	0.01	0.69	0.99
Liquidity_pref	0.54	0.30	0.01	0.57	0.99

Note: the number of observations is 1021 for most variables. The minimum is 918 for the stock-market-based performance measures. For some companies included in the RTS, there were no transactions with either common or preferred shares over May-August in a given year, as well as no ask and/or bid quotations for a particular class of shares. This prevents imputation of share prices and computation of the market-based indicators, including the voting premium.

Table 3. Pairwise Correlations between the Dependent Variables.

	VP	M-t-B	Tobin's Q	ROE	ROA	SGA	ROE t+1	ROA t+1
Market-to-Book	-0.17*							
	(0.00)							
Tobin's Q	-0.16*	0.96*						
	(0.00)	(0.00)						
ROE	-0.06	0.40*	0.38*					
	(0.08)	(0.00)	(0.00)					
ROA	-0.05	0.28*	0.27*	0.76*				
	(0.12)	(0.00)	(0.00)	(0.00)				
SGA	-0.01	0.31*	0.33*	0.24*	0.13*			
	(0.67)	(0.00)	(0.00)	(0.00)	(0.00)			
ROE t+1	-0.06	0.37*	0.34*	0.41*	0.34*	0.19*		
	(0.12)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
ROA t+1	0.02	0.27*	0.25*	0.44*	0.53*	0.10*	0.74*	
	(0.56)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
SGA t+1	-0.02	0.36*	0.35*	0.21*	0.14*	0.89*	0.21*	0.12*
	(0.59)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

* Significance levels are shown in parentheses beneath the correlation coefficients. Asterisks denote statistical significance at the 5% level.

Table 4. Estimation Results for the Voting Premium.

	1	2	3	4	5	6
Board_size	-0.026	-0.355**	-0.357**	-0.360**	-0.327**	-0.328**
	(0.033)	(0.146)	(0.145)	(0.145)	(0.147)	(0.147)
Board_size^2		1.443**	1.446**	1.470***	1.313**	1.313**
		(0.561)	(0.556)	(0.556)	(0.573)	(0.574)
Non_exec_share	0.472*	0.493**	0.504**	0.492*	0.475**	0.476**
	(0.249)	(0.248)	(0.249)	(0.252)	(0.240)	(0.239)
Independ_share	0.833***	0.851***	0.854***	0.820**	0.767**	0.771**
	(0.312)	(0.316)	(0.318)	(0.323)	(0.327)	(0.326)
Board_sh_men			0.151	0.154	0.169	0.166
			(0.239)	(0.238)	(0.239)	(0.240)
Dir_ownership			0.024	-0.078	-0.071	-0.068
			(0.022)	(0.055)	(0.057)	(0.056)
Dir_ownership^2				1.184**	1.107*	1.091*
				(0.579)	(0.599)	(0.593)
Manag_board					-0.302*	-0.304*
					(0.170)	(0.170)
CEO_legalp					0.251	0.250
					(0.181)	(0.181)
CEO_tenure					0.009	0.010
					(0.010)	(0.011)
CEO_ownership					0.008	-0.038
					(0.024)	(0.110)
CEO_ownership^2						0.577
						(1.188)
R2	0.403	0.409	0.410	0.411	0.420	0.420
N	907	907	907	907	907	907

Note: The dependent variable is the voting premium, VP, computed using imputed prices based on ask and bid quotations on the RTS. The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), Shapley value (Shapley), share of voting shares outstanding (Share_voting), presence of the 10% dividend on preferred stock (Dividend10), difference in dividends between non-voting and voting stocks (Delta_dividend), dummy for ADR issue (ADR), dummy for temporary enfranchisement of preferred stock (Vote), dummy for the vetoing power of preferred shareholders on corporate charter changes (Veto), measures of liquidity of the two classes of stock (Liquidity_common, Liquidity_pref), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 5. Estimation Results for the Voting Premium Computed Using Share Prices from Actual Transactions.

	1	2	3	4	5	6
Board_size	-0.004	-0.298*	-0.330*	-0.331*	-0.462**	-0.480**
	(0.053)	(0.177)	(0.180)	(0.183)	(0.188)	(0.189)
Board_size^2		1.267*	1.497*	1.503*	2.019**	2.076**
		(0.758)	(0.767)	(0.769)	(0.792)	(0.798)
Non_exec_share	0.568	0.602	0.669	0.668	0.752*	0.718*
	(0.418)	(0.426)	(0.424)	(0.432)	(0.411)	(0.406)
Independ_share	0.981*	1.014*	1.086*	1.085*	1.308**	1.293**
	(0.572)	(0.580)	(0.589)	(0.603)	(0.556)	(0.555)
Board_sh_men			-0.551	-0.551	-0.571	-0.583
			(0.531)	(0.532)	(0.514)	(0.513)
Dir_ownership			-0.278***	-0.289	-0.408	-0.569
			(0.101)	(0.299)	(0.305)	(0.387)
Dir_ownership^2				0.659	8.641	18.605
				(13.056)	(13.291)	(18.522)
Manag_board					-0.151	-0.172
					(0.254)	(0.259)
CEO_legalp					-0.310	-0.346
					(0.255)	(0.250)
CEO_tenure					0.029	0.031*
					(0.018)	(0.018)
CEO_ownership					0.009	-0.257
					(0.140)	(0.301)
CEO_ownership^2						16.756
						(13.794)
R2	0.626	0.629	0.640	0.640	0.658	0.660
N	275	275	275	275	275	275

Note: The dependent variable is the voting premium, VP, computed using prices registered in actual transactions on the RTS. The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), Shapley value (Shapley), share of voting shares outstanding (Share_voting), presence of the 10% dividend on preferred stock (Dividend10), difference in dividends between non-voting and voting stocks (Delta_dividend), dummy for ADR issue (ADR), dummy for temporary enfranchisement of preferred stock (Vote), dummy for the vetoing power of preferred shareholders on corporate charter changes (Veto), measures of liquidity of the two classes of stock (Liquidity_common, Liquidity_pref), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 6. Estimation Results for Market-based Performance Measures.

	1	2	3	4	5	6
	Market-to-Book ratio			Tobin's Q		
Board_size	-0.044	-0.037	-0.014	-0.137	-0.136	-0.107
	(0.116)	(0.115)	(0.115)	(0.121)	(0.121)	(0.121)
Board_size^2	0.265	0.217	0.095	0.592	0.565	0.413
	(0.455)	(0.448)	(0.449)	(0.476)	(0.473)	(0.474)
Non_exec_share	0.080	0.088	0.055	-0.041	-0.023	-0.077
	(0.276)	(0.274)	(0.268)	(0.180)	(0.178)	(0.172)
Independ_share	0.335	0.371	0.327	0.140	0.176	0.099
	(0.336)	(0.336)	(0.341)	(0.235)	(0.234)	(0.232)
Board_sh_men		-0.154	-0.154		-0.071	-0.063
		(0.216)	(0.212)		(0.194)	(0.186)
Dir_ownership		0.129*	0.116		0.147***	0.128**
		(0.068)	(0.071)		(0.051)	(0.050)
Dir_ownership^2		-1.569*	-1.472*		-1.358***	-1.231**
		(0.834)	(0.856)		(0.504)	(0.497)
Manag_board			-0.219*			-0.312**
			(0.129)			(0.125)
CEO_legalp			0.109			0.206
			(0.151)			(0.147)
CEO_tenure			-0.006			-0.010
			(0.012)			(0.010)
CEO_ownership			0.074			0.133
			(0.111)			(0.095)
CEO_ownership^2			-0.840			-1.652
			(1.224)			(1.068)
R2	0.640	0.642	0.646	0.644	0.647	0.657
N	916	916	916	916	916	916

Note: The dependent variable is the Market-to-Book ratio (regressions 1 to 3) and Tobin's Q (regressions 4 to 6). The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), leverage (Leverage), ownership stakes of the first and second largest shareholders (Owner1, Owner2), ownership stake of the state (State), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 7. Estimation Results for Contemporaneous Accounting Measures.

	1	2	3	4	5	6
	ROE		ROA		SGA	
Board_size	0.044	0.051*	0.022	0.027	0.006	0.007
	(0.027)	(0.027)	(0.019)	(0.019)	(0.007)	(0.007)
Board_size^2	-0.169	-0.200*	-0.078	-0.103	-0.016	-0.021
	(0.115)	(0.120)	(0.078)	(0.076)	(0.028)	(0.030)
Non_exec_share	0.020	0.013	0.017	0.015	0.023	0.027*
	(0.041)	(0.042)	(0.030)	(0.029)	(0.015)	(0.015)
Independ_share	0.088	0.076	0.038	0.032	0.030	0.034
	(0.058)	(0.059)	(0.045)	(0.044)	(0.026)	(0.027)
Board_sh_men		0.049		0.013		0.010
		(0.040)		(0.031)		(0.024)
Dir_ownership		0.016		-0.009		0.004
		(0.022)		(0.012)		(0.004)
Dir_ownership^2		-0.302		0.041		-0.013
		(0.287)		(0.135)		(0.042)
Manag_board		-0.035*		-0.025		0.001
		(0.019)		(0.015)		(0.015)
CEO_legalp		0.031*		0.003		-0.007
		(0.018)		(0.012)		(0.007)
CEO_tenure		-0.001		-0.001		-0.000
		(0.002)		(0.001)		(0.001)
CEO_ownership		0.012		0.006		0.014*
		(0.023)		(0.017)		(0.008)
CEO_ownership^2		-0.066		0.046		-0.168
		(0.285)		(0.193)		(0.107)
R2	0.099	0.113	0.137	0.147	0.166	0.172
N	979	979	989	989	993	993

Note: The dependent variable is contemporaneous ROE (regressions 1 and 2), ROA (regressions 3 and 4), and SGA (regressions 5 and 6). The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), leverage (Leverage), ownership stakes of the first and second largest shareholders (Owner1, Owner2), ownership stake of the state (State), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 8. Estimation Results for Accounting Measures at Time t+1.

	1	2	3	4	5	6
	ROE		ROA		SGA	
Board_size	0.045	0.053*	0.005	0.008	0.007	0.005
	(0.029)	(0.027)	(0.018)	(0.016)	(0.007)	(0.007)
Board_size^2	-0.174	-0.215*	-0.013	-0.039	-0.023	-0.012
	(0.133)	(0.123)	(0.079)	(0.067)	(0.026)	(0.027)
Non_exec_share	0.052	0.068*	0.063	0.071*	-0.015	-0.017
	(0.039)	(0.038)	(0.041)	(0.040)	(0.014)	(0.015)
Independ_share	0.092*	0.112**	0.074	0.086*	-0.044*	-0.049**
	(0.053)	(0.051)	(0.048)	(0.044)	(0.023)	(0.025)
Board_sh_men		0.094*		0.065*		-0.014
		(0.055)		(0.034)		(0.022)
Dir_ownership		0.023*		0.006		-0.008
		(0.014)		(0.009)		(0.006)
Dir_ownership^2		-0.364**		-0.128		0.171**
		(0.175)		(0.090)		(0.066)
Manag_board		-0.012		-0.026		0.009
		(0.030)		(0.017)		(0.012)
CEO_legalp		-0.048**		-0.044**		0.011
		(0.023)		(0.019)		(0.012)
CEO_tenure		-0.001		-0.001		0.000
		(0.001)		(0.001)		(0.001)
CEO_ownership		0.022		0.014		0.010
		(0.016)		(0.013)		(0.009)
CEO_ownership^2		-0.165		-0.173		-0.160
		(0.209)		(0.146)		(0.122)
R2	0.103	0.124	0.067	0.097	0.156	0.181
N	891	891	902	902	897	897

Note: The dependent variable is one-year-ahead values of ROE (regressions 1 and 2), ROA (regressions 3 and 4), and SGA (regressions 5 and 6). The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), leverage (Leverage), ownership stakes of the first and second largest shareholders (Owner1, Owner2), ownership stake of the state (State), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Appendix 1. Identification of Non-executive and Independent Directors.

In classifying directors as non-executive and independent we rely on quarterly reports (typically from the second quarter) of the sampled companies and additional sources, such as business newspapers and the Internet. Although quarterly reports do not directly identify independent and non-executive directors, they provide a wealth of information regarding directors' current and past positions within the firm and outside, including in its affiliated organizations, as well as regarding their ownership stake in the firm.

Based on this information, we classify a director as non-executive if she currently does not hold a managerial position in the firm. This can be easily seen in the quarterly reports, as they list all current positions of the board members. Identification of independent directors is less straightforward. We rely on the definition in the Corporate Governance Code, which lists seven criteria that an independent director should meet (see FCSM 2002, article 2.2.2). For example, an independent director cannot be a manager or an employee of the company or an officer or an employee of the managing organization; she also cannot be an affiliated person of the company or its affiliates; and she cannot be a representative of the state.

Our algorithm involves several steps. We first identify non-executive directors. Within this group, we then check if a director (a) has any ownership stake in the company, (b) is a public servant, (c) sits on the company's board longer than seven years, (d) holds a managerial position in any of the company's affiliated firms, (e) is affiliated with the managing organization (where relevant). A positive answer to any of these items implies that the director cannot be regarded as independent. Finally, in a few uncertain cases we resort to additional sources such as business newspapers (Kommersant, Vedomosti) and the Internet.

For example, the board of directors of company LOMO in 1998 had 5 directors, of which two were LOMO managers. The other three could be classified as non-executives. Among them, one had a managerial position in the firm that was among the company's principal shareholders. Hence, he could not be regarded as independent. According to the information provided in LOMO quarterly reports, the other two fulfilled the formal criteria for director independence specified in the Corporate Governance Code. In particular, they both held managerial positions in firms that were not listed among LOMO affiliated persons. However, simple search in the archives of newspaper Kommersant identified links (via ownership) between LOMO and these other two companies. Thus, neither of LOMO directors was independent in 1998.

Note that for the ease of interpretation, independent and non-executive categories do not overlap in our data. Directors who are independent are not considered non-executive.

Appendix 2. Estimation Results for the Voting Premium Using the Random-effects Estimator.

	1	2	3	4	5	6
Board_size	-0.034	-0.031	-0.032	-0.034	-0.014	-0.013
	(0.025)	(0.121)	(0.121)	(0.122)	(0.125)	(0.126)
Board_size^2		-0.015	-0.012	-0.003	-0.104	-0.106
		(0.562)	(0.564)	(0.565)	(0.588)	(0.592)
Non_exec_share	0.338*	0.336	0.337*	0.336	0.329	0.335
	(0.201)	(0.205)	(0.204)	(0.205)	(0.204)	(0.204)
Independ_share	0.567**	0.565**	0.568**	0.562**	0.569**	0.571**
	(0.233)	(0.234)	(0.235)	(0.237)	(0.238)	(0.238)
Board_sh_men			-0.030	-0.030	-0.046	-0.043
			(0.208)	(0.208)	(0.208)	(0.209)
Dir_ownership			0.000	-0.015	-0.014	-0.020
			(0.012)	(0.037)	(0.034)	(0.035)
Dir_ownership^2				0.119	0.111	0.150
				(0.264)	(0.250)	(0.259)
Manag_board					-0.053	-0.054
					(0.118)	(0.119)
CEO_legalp					-0.059	-0.058
					(0.127)	(0.127)
CEO_tenure					0.006	0.006
					(0.009)	(0.009)
CEO_ownership					-0.011	0.009
					(0.014)	(0.037)
CEO_ownership^2						-0.209
						(0.305)
Hausman test:						
Chi2	28.75	93.34	112.43	313.36	105.40	100.40
Prob>Chi2	0.2299	0.000	0.000	0.000	0.000	0.000
R2	0.392	0.392	0.392	0.392	0.393	0.393
N	907	907	907	907	907	907

Note: The dependent variable is the voting premium, VP, computed using imputed prices based on ask and bid quotations on the RTS. The results are obtained using the random-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), Shapley value (Shapley), share of voting shares outstanding (Share_voting), presence of the 10% dividend on preferred stock (Dividend10), difference in dividends between non-voting and voting stocks (Delta_dividend), dummy for ADR issue (ADR), dummy for temporary enfranchisement of preferred stock (Vote), dummy for the vetoing power of preferred shareholders on corporate charter changes (Veto), measures of liquidity of the two classes of stock (Liquidity_common, Liquidity_pref), as well as time and industry dummies. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively. The Hausman specification test is reported at the foot of the table.

Appendix 3. Estimation Results for the Subsamples Spanning 1998-2002 and 2003-2009 (before and after adoption of the Corporate Governance Code).

	1	2	3	4	5	6	7	8
	1998-2002, imputed stock prices		1998-2002, actual stock prices		2003-2009, imputed stock prices		2003-2009, actual stock prices	
Board_size	-0.070	-0.058	-0.131	-0.062	-0.505*	-0.555**	0.021	-0.115
	(0.232)	(0.218)	(0.508)	(0.571)	(0.255)	(0.240)	(0.370)	(0.462)
Board_size^2	0.240	0.207	0.398	0.207	2.297**	2.428**	0.258	0.762
	(0.849)	(0.801)	(2.201)	(2.461)	(1.060)	(1.001)	(1.471)	(1.816)
Non_exec_share	0.583**	0.521**	0.749	0.561	0.376	0.247	1.068**	0.843*
	(0.262)	(0.252)	(0.938)	(0.641)	(0.430)	(0.425)	(0.455)	(0.476)
Independ_share	1.327***	1.156***	0.183	-0.235	0.462	0.309	1.714***	1.716***
	(0.435)	(0.432)	(1.513)	(1.508)	(0.500)	(0.495)	(0.514)	(0.528)
Board_sh_men		0.543*		4.694***		0.272		0.423
		(0.300)		(0.747)		(0.340)		(0.531)
Dir_ownership		-0.065		-0.216		-0.268**		-0.488
		(0.066)		(0.503)		(0.134)		(0.455)
Dir_ownership^2		0.714		4.043		3.376**		-0.979
		(0.621)		(17.603)		(1.309)		(22.006)
Manag_board		-0.139		0.293		-0.632**		-0.446
		(0.198)		(0.225)		(0.250)		(0.553)
CEO_legalp		0.669**		0.405		-0.009		-0.602**
		(0.259)		(0.288)		(0.233)		(0.287)
CEO_tenure		0.019		-0.009		0.004		0.026
		(0.015)		(0.022)		(0.013)		(0.021)
CEO_ownership		-0.051		0.597**		-0.144		-0.435
		(0.142)		(0.293)		(0.229)		(0.801)
CEO_ownership^2		0.841		-18.380		0.814		45.019
		(2.198)		(12.204)		(2.337)		(60.179)
R2	0.276	0.304	0.548	0.713	0.314	0.340	0.485	0.543
N	468	468	110	110	439	439	165	165

Note: The dependent variable is the voting premium, VP, computed using imputed prices based on ask and bid quotations on the RTS (columns 1, 2, 5, and 6) and using prices registered in actual transactions on the RTS (columns 3, 4, 7, and 8). The results are obtained using the fixed-effects estimator. The table only reports the key variables of interest. Control variables that are not shown include: firm size (Size), Shapley value (Shapley), share of voting shares outstanding (Share_voting), presence of the 10% dividend on preferred stock (Dividend10), difference in dividends between non-voting and voting stocks (Delta_dividend), dummy for ADR issue (ADR), dummy for temporary enfranchisement of preferred stock (Vote), dummy for the vetoing power of preferred shareholders on corporate charter changes (Veto), measures of liquidity of the two classes of stock (Liquidity_common, Liquidity_pref), as well as time dummies. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Appendix 4. Estimation Results for the Voting Premium (full results for Table 4).

	1	2	3	4	5	6
Board_size	-0.026	-0.355**	-0.357**	-0.360**	-0.327**	-0.328**
	(0.033)	(0.146)	(0.145)	(0.145)	(0.147)	(0.147)
Board_size^2		1.443**	1.446**	1.470***	1.313**	1.313**
		(0.561)	(0.556)	(0.556)	(0.573)	(0.574)
Non_exec_share	0.472*	0.493**	0.504**	0.492*	0.475**	0.476**
	(0.249)	(0.248)	(0.249)	(0.252)	(0.240)	(0.239)
Independ_share	0.833***	0.851***	0.854***	0.820**	0.767**	0.771**
	(0.312)	(0.316)	(0.318)	(0.323)	(0.327)	(0.326)
Board_sh_men			0.151	0.154	0.169	0.166
			(0.239)	(0.238)	(0.239)	(0.240)
Dir_ownership			0.024	-0.078	-0.071	-0.068
			(0.022)	(0.055)	(0.057)	(0.056)
Dir_ownership^2				1.184**	1.107*	1.091*
				(0.579)	(0.599)	(0.593)
Manag_board					-0.302*	-0.304*
					(0.170)	(0.170)
CEO_legalp					0.251	0.250
					(0.181)	(0.181)
CEO_tenure					0.009	0.010
					(0.010)	(0.011)
CEO_ownership					0.008	-0.038
					(0.024)	(0.110)
CEO_ownership^2						0.577
						(1.188)
Shapley	0.490	0.313	0.349	0.341	0.251	0.257
	(0.331)	(0.340)	(0.332)	(0.339)	(0.348)	(0.347)
1/Share_voting	-0.398	-0.792	-0.701	-0.788	-0.775	-0.824
	(2.067)	(2.066)	(2.031)	(2.037)	(2.023)	(2.013)
Dividend10	0.202	0.221	0.206	0.213	0.195	0.195
	(0.342)	(0.328)	(0.325)	(0.323)	(0.327)	(0.328)
Delta_dividend	-0.433	-0.422	-0.441	-0.473	-0.457	-0.460
	(0.456)	(0.460)	(0.462)	(0.463)	(0.446)	(0.445)
ADR	-0.190*	-0.179*	-0.173*	-0.165*	-0.151	-0.150
	(0.099)	(0.098)	(0.095)	(0.094)	(0.096)	(0.096)
Vote	0.123	0.134	0.137	0.142	0.132	0.129
	(0.097)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)
Veto	0.116	0.119	0.123	0.111	0.164	0.162
	(0.124)	(0.124)	(0.125)	(0.125)	(0.125)	(0.126)
Liquidity_comm	0.686***	0.677***	0.664***	0.676***	0.668***	0.670***
	(0.199)	(0.198)	(0.203)	(0.203)	(0.205)	(0.206)
Liquidity_pref	-0.834***	-0.824***	-0.822***	-0.832***	-0.859***	-0.859***
	(0.207)	(0.208)	(0.209)	(0.208)	(0.209)	(0.209)
Size	-0.122*	-0.103	-0.108	-0.108	-0.100	-0.101
	(0.068)	(0.071)	(0.074)	(0.073)	(0.071)	(0.071)
Year1998	-0.244***	-0.242***	-0.243***	-0.243***	-0.240***	-0.237***
	(0.090)	(0.091)	(0.091)	(0.090)	(0.091)	(0.091)
Year1999	-0.065	-0.062	-0.057	-0.066	-0.078	-0.077
	(0.114)	(0.113)	(0.113)	(0.114)	(0.113)	(0.113)
Year2000	-0.063	-0.047	-0.039	-0.046	-0.048	-0.049
	(0.074)	(0.075)	(0.076)	(0.076)	(0.077)	(0.077)
Year2001	-0.687***	-0.680***	-0.667***	-0.679***	-0.737***	-0.739***
	(0.131)	(0.131)	(0.133)	(0.133)	(0.134)	(0.134)
Year2002	-0.797***	-0.784***	-0.774***	-0.784***	-0.852***	-0.855***
	(0.164)	(0.166)	(0.166)	(0.165)	(0.168)	(0.169)
Year2003	-1.081***	-1.048***	-1.039***	-1.052***	-1.119***	-1.124***
	(0.150)	(0.152)	(0.152)	(0.152)	(0.147)	(0.147)
Year2004	-1.033***	-1.002***	-0.988***	-1.006***	-1.073***	-1.080***
	(0.172)	(0.173)	(0.174)	(0.174)	(0.179)	(0.179)

Year2005	-1.712***	-1.667***	-1.651***	-1.669***	-1.741***	-1.748***
	(0.150)	(0.157)	(0.160)	(0.159)	(0.163)	(0.164)
Year2006	-1.400***	-1.343***	-1.325***	-1.340***	-1.406***	-1.415***
	(0.168)	(0.176)	(0.179)	(0.179)	(0.187)	(0.188)
Year2007	-1.048***	-0.996***	-0.980***	-0.992***	-1.054***	-1.063***
	(0.181)	(0.188)	(0.188)	(0.188)	(0.195)	(0.197)
Year2008	-1.126***	-1.069***	-1.051***	-1.047***	-1.119***	-1.131***
	(0.174)	(0.180)	(0.181)	(0.180)	(0.188)	(0.191)
Intercept	1.719	3.722	3.523	3.670	3.497	3.585
	(2.708)	(2.535)	(2.458)	(2.467)	(2.466)	(2.454)
R2	0.403	0.409	0.410	0.411	0.420	0.420
N	907	907	907	907	907	907

Note: The dependent variable is the voting premium, VP, computed using imputed prices based on ask and bid quotations on the RTS. The results are obtained using the fixed-effects estimator. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Appendix 5. Estimation Results for Contemporaneous Accounting Measures (full results for Table 7).

	1	2	3	4	5	6
	ROE		ROA		SGA	
Board_size	0.044	0.051*	0.022	0.027	0.006	0.007
	(0.027)	(0.027)	(0.019)	(0.019)	(0.007)	(0.007)
Board_size^2	-0.169	-0.200*	-0.078	-0.103	-0.016	-0.021
	(0.115)	(0.120)	(0.078)	(0.076)	(0.028)	(0.030)
Non_exec_share	0.020	0.013	0.017	0.015	0.023	0.027*
	(0.041)	(0.042)	(0.030)	(0.029)	(0.015)	(0.015)
Independ_share	0.088	0.076	0.038	0.032	0.030	0.034
	(0.058)	(0.059)	(0.045)	(0.044)	(0.026)	(0.027)
Board_sh_men		0.049		0.013		0.010
		(0.040)		(0.031)		(0.024)
Dir_ownership		0.016		-0.009		0.004
		(0.022)		(0.012)		(0.004)
Dir_ownership^2		-0.302		0.041		-0.013
		(0.287)		(0.135)		(0.042)
Manag_board		-0.035*		-0.025		0.001
		(0.019)		(0.015)		(0.015)
CEO_legalp		0.031*		0.003		-0.007
		(0.018)		(0.012)		(0.007)
CEO_tenure		-0.001		-0.001		-0.000
		(0.002)		(0.001)		(0.001)
CEO_ownership		0.012		0.006		0.014*
		(0.023)		(0.017)		(0.008)
CEO_ownership^2		-0.066		0.046		-0.168
		(0.285)		(0.193)		(0.107)
Leverage	-0.003	-0.004	-0.023***	-0.025***	0.013**	0.014**
	(0.013)	(0.015)	(0.006)	(0.005)	(0.005)	(0.006)
Size	-0.008	-0.009	-0.007	-0.007	-0.034**	-0.034***
	(0.012)	(0.013)	(0.010)	(0.010)	(0.013)	(0.013)
Owner1	0.001**	0.001**	0.001	0.001	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Owner2	-0.000	-0.000	0.001	0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
State_ownership	0.001	0.001	0.000	0.000	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Year1998	-0.088***	-0.086***	-0.077***	-0.077***	-0.009	-0.010*
	(0.020)	(0.020)	(0.013)	(0.013)	(0.005)	(0.005)
Year1999	-0.008	-0.005	-0.014*	-0.015*	-0.012**	-0.012**
	(0.010)	(0.011)	(0.008)	(0.009)	(0.005)	(0.005)
Year2000	-0.024**	-0.021*	-0.014	-0.015	0.002	0.003
	(0.011)	(0.011)	(0.009)	(0.009)	(0.003)	(0.003)
Year2001	-0.040***	-0.036**	0.008	0.005	-0.016**	-0.014**
	(0.014)	(0.015)	(0.014)	(0.015)	(0.007)	(0.006)
Year2002	-0.043**	-0.041**	-0.027*	-0.030*	-0.015***	-0.013**
	(0.018)	(0.019)	(0.016)	(0.017)	(0.006)	(0.006)
Year2003	-0.017	-0.013	-0.014	-0.016	-0.016**	-0.014**
	(0.019)	(0.020)	(0.017)	(0.018)	(0.008)	(0.007)
Year2004	0.002	0.009	0.004	-0.000	-0.022**	-0.019**
	(0.021)	(0.022)	(0.021)	(0.022)	(0.009)	(0.008)
Year2005	0.013	0.017	-0.005	-0.009	-0.015	-0.011
	(0.026)	(0.027)	(0.021)	(0.023)	(0.010)	(0.010)
Year2006	0.022	0.023	0.006	0.003	-0.019*	-0.014
	(0.028)	(0.029)	(0.024)	(0.026)	(0.011)	(0.011)
Year2007	-0.007	-0.007	-0.002	-0.007	-0.019	-0.014
	(0.034)	(0.033)	(0.028)	(0.028)	(0.012)	(0.011)
Year2008	-0.044	-0.044	-0.024	-0.027	-0.018	-0.013
	(0.030)	(0.031)	(0.025)	(0.026)	(0.014)	(0.013)

Intercept	-0.176 (0.172)	-0.211 (0.175)	0.001 (0.133)	-0.013 (0.133)	0.284*** (0.107)	0.262** (0.111)
r2	0.099	0.113	0.137	0.147	0.166	0.172
N	979	979	989	989	993	993

Note: The dependent variable is contemporaneous ROE (regressions 1 and 2), ROA (regressions 3 and 4), and SGA (regressions 5 and 6). The results are obtained using the fixed-effects estimator. Industry dummy variables are subsumed in the firm fixed effects. Cluster-robust standard errors with clustering on firms are reported in parentheses. Asterisks ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Опубликованные научные доклады

№ 1 (R)–2005	А. В. Бухвалов Д. Л. Волков	Фундаментальная ценность собственного капитала: использование в управлении компанией
№ 2 (R)–2005	В. М. Полтерович О. Ю. Старков	Создание массовой ипотеки в России: проблема трансплантации
# 1 (E)–2006	I. S. Merkuryeva	The Structure and Determinants of Informal Employment in Russia: Evidence From NOBUS Data
№ 2 (R)–2006	Т. Е. Андреева В. А. Чайка	Динамические способности фирмы: что необходимо, чтобы они были динамическими?
№ 3 (R)–2006	Д. Л. Волков И. В. Березинец	Управление ценностью: анализ основанных на бухгалтерских показателях моделей оценки
№ 4 (R)–2006	С. А. Вавилов К. Ю. Ермоленко	Управление инвестиционным портфелем на финансовых рынках в рамках подхода, альтернативного стратегии самофинансирования
№ 5 (R)–2006	Г. В. Широкова	Стратегии российских компаний на разных стадиях жизненного цикла: попытка эмпирического анализа
№ 6 (R)–2006	Д. В. Овсянко В. А. Чайка	Особенности организации процесса непрерывного улучшения качества в российских компаниях и его связь с процессами стратегического поведения
№ 7 (R)–2006	А. Н. Козырев	Экономика интеллектуального капитала
№ 8 (R)–2006	Н. А. Зенкевич, Л. А. Петросян	Проблема временной состоятельности кооперативных решений
№ 9 (R)–2006	Е. А. Дорофеев, О. А. Лапшина	Облигации с переменным купоном: принципы ценообразования
# 10 (E)–2006	T. E. Andreeva V. A. Chaika	Dynamic Capabilities: what they need to be dynamic?
№ 11 (E)–2006	G. V. Shirokova	Strategies of Russian Companies at Different Stages of Organizational Life Cycle: an Attempt of Empirical Analysis
№ 12 (R)–2006	А. Е. Лукьянова, Т. Г. Тумарова	Хеджевые фонды как инструменты снижения рисков и роста ценности компании
№ 13 (R)–2006	Л. Н. Богомолова	Применение этнографических методов для изучения процессов принятия потребительских решений

№ 14 (R)–2006	Е. К. Завьялова	Особенности профессионально-личностного потенциала и развития карьеры линейных менеджеров отечественных производственных предприятий
№ 15 (R)–2006	С. В. Кошелева	Удовлетворенность трудом как комплексный диагностический показатель организационных проблем в управлении персоналом
№ 16 (R)–2006	А. А. Румянцев, Ю. В. Федотов	Экономико-статистический анализ результатов инновационной деятельности в промышленности Санкт-Петербурга
№ 17 (R)–2006	Е. К. Завьялова	Взаимосвязь организационной культуры и систем мотивации и стимулирования персонала
№ 18 (R)–2006	А. Д. Чанько	Алгебра и гармония HR-менеджмента. Эффективность обучения персонала и диагностика организационной культуры
№ 19 (E)–2006	T. E. Andreeva	Organizational change in Russian companies: findings from research project
# 20 (E)–2006	N. E. Zenkevich, L. A. Petrosjan	Time-consistency of Cooperative Solutions
№ 21 (R)–2006	Т. Е. Андреева	Организационные изменения в российских компаниях: результаты эмпирического исследования
№ 22 (R)–2006	Д. Л. Волков, Т. А. Гаранина	Оценивание интеллектуального капитала российских компаний
№ 23 (R)–2006	А. В. Бухвалов, Ю. Б. Ильина, О. В. Бандалюк	Электронное корпоративное управление и проблемы раскрытия информации: сравнительное пилотное исследование
№ 24 (R)–2006	С. В. Кошелева	Особенности командно-ролевого взаимодействия менеджеров среднего и высшего звена международной и российских компаний
№ 25 (R)–2006	Ю. В. Федотов, Н. В. Хованов	Методы построения сводных оценок эффективности деятельности сложных производственных систем
# 26 (E)–2006	S. Kouchtch, M. Smirnova, K. Krotov, A. Starkov	Managing Relationships in Russian Companies: Results of an Empirical Study
№ 27 (R)–2006	А. Н. Андреева	Портфельный подход к управлению люксовыми брендами в фэшн-бизнесе: базовые концепции, ретроспектива и возможные сценарии

№ 28 (R)–2006	Н. В. Хованов, Ю. В. Федотов	Модели учета неопределенности при построении сводных показателей эффективности деятельности сложных производственных систем
№ 29 (R)–2006	Е. В. Соколова, Ю. В. Федотов, Н. В. Хованов.	Построение сводной оценки эффективности комплексов мероприятий по повышению надежности функционирования объектов электроэнергетики
# 30 (E)–2006	M. Smirnova	Managing Buyer-Seller Relationships in Industrial Markets: A Value Creation Perspective
№ 31 (R)–2006	С. П. Кущ, М. М. Смирнова	Управление взаимоотношениями в российских компаниях: разработка концептуальной модели исследования
№ 32 (R)–2006	М. О. Латуха, В. А. Чайка, А. И. Шаталов	Влияние «жестких» и «мягких» факторов на успешность внедрения системы менеджмента качества: опыт российских компаний
№ 33 (R)–2006	А. К. Казанцев, Л. С. Серова, Е. Г. Серова, Е. А. Руденко	Индикаторы мониторинга информационно-технологических ресурсов регионов России
№ 34 (R)–2006	Т. Е. Андреева, Е. Е. Юртайкин, Т. А. Солтицкая	Практики развития персонала как инструмент привлечения, мотивации и удержания интеллектуальных работников
# 35 (E)–2006	T. Andreeva, E. Yurtaikin, T. Soltitskaya	Human resources development practices as a key tool to attract, motivate and retain knowledge workers
№ 36 (R)–2006	А. В. Бухвалов, В. Л. Окулов.	Классические модели ценообразования на капитальные активы и российский финансовый рынок. Часть 1. Эмпирическая проверка модели CAPM. Часть 2. Возможность применения вариантов модели CAPM
№ 37 (R)–2006	Е. Л. Шекова	Развитие корпоративной социальной ответственности в России: позиция бизнеса (на примере благотворительной деятельности компаний Северо-Западного региона)
№ 38 (R)–2006	Н. А. Зенкевич, Л. А. Петросян	Дифференциальные игры в менеджменте

№ 39 (R)–2006	В. Г. Беляков, О. Р. Верховская, В. К. Дерманов, М. Н. Румянцева	Глобальный мониторинг предпринимательской активности Россия: итоги 2006 года
№ 40 (R)–2006	В. А. Чайка, А. В. Куликов	Динамические способности компании: введение в проблему
№ 41 (R)–2006	Ю. Е. Благов	Институционализация менеджмента заинтересованных сторон в российских компаниях: проблемы и перспективы использования модели «Арктурус»
№ 42 (R)–2006	И. С. Меркурьева, Е. Н. Парамонова, Ю. М. Битина, В. Л. Гильченок	Экономический анализ на основе связанных данных по занятым и работодателям: методология сбора и использования данных
# 43 (E)–2006	I. Merkuryeva, E. Paramonova, J. Bitina, V. Gilchenok	Economic Analysis Based on Matched Employer-Employee Data: Methodology of Data Collection and Research
№ 44 (R)–2006	Н. П. Дроздова	Российская «артельность» — мифологема или реальность' (Артельные формы хозяйства в России в XIX — начале XX в.: историко-институциональный анализ)
№ 1 (R)–2007	Е. В. Соколова	Бенчмаркинг в инфраструктурных отраслях: анализ методологии и практики применения (на примере электроэнергетики)
№ 2 (R)–2007	С. П. Кущ, М. М. Смирнова	Управление поставками в российских компаниях: стратегия или тактика
№ 3 (R)–2007	Т. М. Скляр	Проблема ленивой монополии в российском здравоохранении
№ 4 (R)–2007	Т. Е. Андреева	Индивидуальные предпочтения работников к созданию и обмену знаниями: первые результаты исследования
№ 5 (R)–2007	А. А. Голубева	Оценка порталов органов государственного управления на основе концепции общественной ценности
№ 6 (R)–2007	С. П. Кущ, М. М. Смирнова	Механизм координации процессов управления взаимоотношениями компании с партнерами
# 7 (E)–2007	D. Volkov, I. Berezinets	Accounting-based valuations and market prices of equity: case of Russian market

№ 8 (R)–2007	М. Н. Барышников	Баланс интересов в структуре собственности и управления российской фирмы в XIX – начале XX века
# 9 (E)–2007	D. Volkov, T. Garanina	Intellectual capital valuation: case of Russian companies
№ 10 (R)–2007	К. В. Кротов	Управление цепями поставок: изучение концепции в контексте теории стратегического управления и маркетинга.
№ 11 (R)–2007	Г. В. Широкова, А. И. Шаталов	Характеристики компаний на ранних стадиях жизненного цикла: анализ факторов, влияющих на показатели результативности их деятельности
№ 12 (R)–2007	А. Е. Иванов	Размещение государственного заказа как задача разработки и принятия управленческого решения
№ 13 (R)-2007	О. М. Удовиченко	Понятие, классификация, измерение и оценка нематериальных активов (объектов) компании: подходы к проблеме
№ 14 (R)–2007	Г. В. Широкова, Д. М. Кнатько	Влияние основателя на развитие организации: сравнительный анализ компаний управляемых основателями и наемными менеджерами
# 15 (E)–2007	G. Shirokova, A. Shatalov	Characteristics of companies at the early stages of the lifecycle: analysis of factors influencing new venture performance in Russia
# 16 (E)–2007	N. Drozdova	Russian “Artel’nost” — Myth or Reality' Artel’ as an Organizational Form in the XIX — Early XX Century Russian Economy: Comparative and Historical Institutional Analysis
# 1 (E)–2008	S. Commander, J. Svejnar, K. Tinn	Explaining the Performance of Firms and Countries: What Does the Business Environment Play'
№ 1 (R)–2008	Г. В. Широкова, В. А. Сарычева, Е. Ю. Благов, А. В. Куликов	Внутрифирменное предпринимательство: подходы к изучению вопроса
№ 1A(R)–2008	Г. В. Широкова, А. И. Шаталов, Д. М. Кнатько	Факторы, влияющие на принятие решения основателем компании о передаче полномочий профессиональному менеджеру: опыт стран СНГ и Центральной и Восточной Европы

№ 2 (R)–2008	Г. В. Широкова, А. И. Шаталов	Факторы роста российских предпринимательских фирм: результаты эмпирического анализа
№ 1 (R)–2009	Н. А. Зенкевич	Моделирование устойчивого совместного предприятия
№ 2 (R)–2009	Г. В. Широкова, И. В. Березинец, А. И. Шаталов	Влияние организационных изменений на рост фирмы
№ 3 (R)–2009	Г. В. Широкова, М. Ю. Молодцова, М. А. Арепьева	Влияние социальных сетей на разных этапах развития предпринимательской фирмы: результаты анализа данных Глобального мониторинга предпринимательства в России
# 4 (E)–2009	N. Drozdova	Russian Artel Revisited through the Lens of the New Institutional Economics
№ 5 (R)–2009	Л. Е. Шепелёв	Проблемы организации нефтяного производства в дореволюционной России
№ 6 (R)–2009	Е. В. Соколова	Влияние государственной политики на инновационность рынков: постановка проблемы
№ 7 (R)–2009	А. А. Голубева, Е. В. Соколова	Инновации в общественном секторе: введение в проблему
# 8 (E)–2009	A. Damodaran	Climate Financing Approaches and Systems: An Emerging Country Perspective
№ 1 (R)–2010	И. Н. Баранов	Конкуренция в сфере здравоохранения
№ 2 (R)–2010	Т. А. Пустовалова	Построение модели оценки кредитного риска кредитного портфеля коммерческого банка (на основе методологии VAR)
№ 3 (R)–2010	Ю. В.Лаптев	Влияние кризиса на стратегии развития российских МНК
№ 4 (R)–2010	А. В. Куликов, Г. В. Широкова	Внутрифирменные ориентации и их влияние на рост: опыт российских малых и средних предприятий
# 5 (E)–2010	M. Storchevoy	A General Theory of the Firm: From Knight to Relationship Marketing
№ 6 (R)–2010	А. А. Семенов	Появление систем научного менеджмента в России
# 7 (E)–2010	D. Ivanov	An optimal-control based integrated model of supply chain scheduling
№ 8 (R)–2010	Н. П. Дроздова, И. Г. Кормилицына	Экономическая политика государства и формирование инвестиционного климата: опыт России конца XIX — начала XX вв.

№ 9 (R)–2010	Д. В. Овсянко	Направления применения компонентов менеджмента качества в стратегическом управлении компаниями
# 10 (E)–2010	V. Cherenkov	Toward the General Theory of Marketing: The State of the Art and One More Approach
№ 11 (R)–2010	В. Н. Тишков	Экономические реформы и деловая среда: опыт Китая
№ 12 (R)–2010	Т. Н. Клёмина	Исследовательские школы в организационной теории: факторы формирования и развития
№ 13 (R)–2010	И. Я. Чуракова	Направления использования методик выявления аномальных наблюдений при решении задач операционного менеджмента
№ 14 (R)–2010	К. В. Кротов	Направления развития концепции управления цепями поставок
№ 15 (R)–2010	А. Г. Медведев	Стратегические роли дочерних предприятий многонациональных корпораций в России
№ 16 (R)–2010	А. Н. Андреева	Влияние печатной рекламы на восприятие бренда Shalimar (1925 – 2010)
№ 17 (R)–2010	В. Л. Окулов	Ценность хеджирования для корпорации и рыночные ожидания
№ 1 (R)–2011	А. А. Муравьев	О российской экономической науке сквозь призму публикаций российских ученых в отечественных и зарубежных журналах за 2000–2009 гг.
№ 2 (R)–2011	С. И. Кирюков	Становление и развитие теории управления маркетинговыми каналами
№ 3 (R)–2011	Д. И. Баркан	Общая теория продаж в контексте дихотомии «развитие – рост»
# 4 (E)–2011	K. V. Krotov, R. N. Germain	A Contingency Perspective on Centralization of Supply Chain Decision-making and its Role in the Transformation of Process R&D into Financial Performance
№ 5 (R)–2011	А. В. Зятчин	Сильные равновесия в теоретико-игровых моделях и их приложения
№ 6 (R)–2011	В. А. Ребязина	Формирование портфеля взаимоотношений компании с партнерами на промышленных рынках
№ 1 (R)–2012	А. Л. Замулин	Лидерство в эпоху знаний

# 2 (E)–2012	I. N. Baranov	Quality of Secondary Education in Russia: Between Soviet Legacy and Challenges of Global Competitiveness
№ 3 (R)–2012	Л. С. Серова	Микро-предприятия в экономике России: состояние и тенденции развития
# 4 (E)–2012	G. V. Shirokova, D. M. Knatko, G. Vega	Separation of Management and Control in SMEs from Emerging Markets: The Role of Institutions
№ 5 (R)–2012	Г. В. Широкова, М. А. Сторчевой	Влияние социальных сетей на выход на зарубежные рынки: из опыта трех российских предпринимательских фирм
№ 6 (R)–2012	А. К. Казанцев	Инновационное развитие университетов: аналитический обзор ведущих российских вузов
№ 7 (R)–2012	Д. В. Муравский, М. М. Смирнова, О. Н. Алканова	Капитал бренда в современной теории маркетинга
# 8 (E)–2012	E. B. Samuylova, D. V. Muravskii, M. M. Smirnova, O. N. Alkanova	The role of brand characteristics in brand alliance engagement with different types of partners: an exploratory study
№ 9 (R)–2012	Е. Ю. Благов	Факторы ценообразования многосторонних платформ: современное состояние и перспективы исследований
# 10 (E)–2012	E. K. Zavyalova, S. V. Kosheleva	Assessing the efficiency of HRD technologies in knowledge-intensive firms
# 11 (E)–2012	E. K. Zavyalova, S. V. Kosheleva	Human potential as a factor of developing national competitiveness of Brazil, Russia, India and China
# 12 (E)–2012	D. M. Muravskii, S. A. Yablonsky	Determining disruptive innovation potential of multi-sided platforms: case of digital books
№ 13 (R)–2012	В. Ю. Аршавский, В. Л. Окулов	Контролируемый эксперимент по принятию решений в условиях неопределенности и риска
№ 14 (R)–2012	А. А. Муравьев	К вопросу о классификации российских журналов по экономике и смежным дисциплинам
№ 1 (E)–2013	G. V. Shirokova, L. S. Sokolova	Exploring the Antecedents of Entrepreneurial Orientation in Russian SMEs: The Role of Institutional Environment

№ 2 (R)–2013	А.Ф. Денисов	Не упустить детали, или что может осложнить жизнь специалисту по УЧР